

ECONOMIC SYNTHESIS

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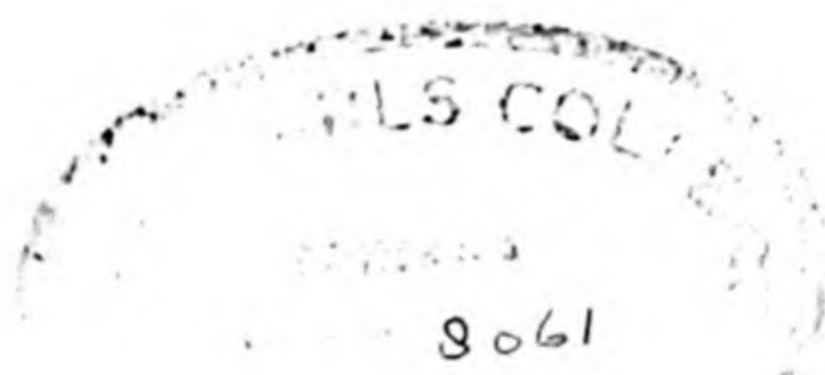
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This book
is with deep reverence
dedicated
to the memory of
the great Indian economist
Prof. Brij Narain

and

the great German-American economist
Prof. Joseph Schumpeter.

May this dedication serve as
a symbol of the friendship
between the East and the West.

PREFACE

This work, presented to the economic fraternity under the title "Economic Synthesis," is an attempt to rekindle the sort of analytical social economics which in recent years may seem to have lost some ground to the purely mathematical approach. At times some mathematical economists threaten to convert our science into a subsidiary research field of an aggressive heuristic discipline.

"Economic Synthesis," therefore, seeks a fundamentally conservative achievement. But in other respects it has a progressive, perhaps even a bold program. Neglected problems are dealt with, such as the socio-economic balance sheet, social rent, etc. Some doctrines enjoying current favor, indifference curves for example, will be challenged. Some essential phenomena, such as intermediate good, static interest and profit, are given new interpretation. Economic Theory as ultimately a theory of Macroeconomics will be as much as possible divorced from an analysis of microeconomic problems.

The author of the book believes that his analysis contributes a genuine synthesis of socio-economic problems, not only because he establishes a distinct synthesis between the theories of the permanent and the relative economic laws, but also because he reconciles, in some degree at least, the sound hard core of neo-classicism, momentarily "declassée," and the modern, popular, and somewhat arrogant Keynesian train of thought. If, in addition, he succeeds in opening to English-speaking readers some little known riches of European continental economic thought, the cultural mission of this book will be wholly fulfilled.

It is my pleasant duty to express my gratitude to those colleagues and friends who have helped with moral support and competent advice: first of all to Rev. Bernard W. Dempsey, S.J., who never failed with aid and encouragement; then to Rev. Thomas M. Knapp, S. J. who took a sustained interest in the project; and finally to Rev. Leo C. Brown, S. J. and Dr. Kurt Junckerstorff who gave a friendly assistance in some respects. Besides, I am indebted to my former students, Dr. Dorothy Sanford-Zerzan, Dr. Doris Beutenmueller and Mr. Frank Wherry of Gonzaga University who gave valuable assistance in the way of preparing my manuscript for publication. Nor do I forget that a long series of patient classes in the School of Commerce and Finance of Saint Louis University have made their contributions.

Saint Louis, U.S.A.

Boris Ischboldin al Bakri.

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CHAPTER I

OBJECT OF ECONOMIC SCIENCE AND ECONOMIC ACTIVITY

Our first concern is to find out what we understand by economic activity. Economics is the science that deals with such activity from either a naturalistic or sociological (*i. e.* social) standpoint.

First of all, economic activity in its essence is a certain relationship between man and nature (or things). By "economic theory," we mean an analysis of the relationship of man to his mechanical, technical environment. On the other hand, there is no economic action under modern conditions which does not have an institutional or interhuman background, provided we do not include the abnormal economic activity of a single human being isolated on a desert island, such as Robinson Crusoe, which is entirely devoid of any social or interpersonal setting. Consequently, economics cannot be a purely naturalistic science. It also involves the "social background" of economic activity and traverses the entire field of inter-human relations and institutions arising from man's efforts to satisfy his different wants by using material or immaterial goods.

When our discipline devotes particular attention to the social background, it emerges as a distinct social science which we define as "economic sociology." Thus, economics has two different aspects which are interwoven and still distinct. When, for instance, we study price formation which never can exist without a social background, from the standpoint of pure economic theory, we are interested in the relationship between the supply of and the demand for the given commodity; we are not investigating the human relations which influence the respective price formation, such as distribution of power, existence of some hidden forces, etc. Of course, any economic theory more or less developed, that is, in a sense, dynamic, must take into account the given social environment. It must consider not only the social economic order, but also the given market structure when it discusses the technical topics concerning the relationship between man (or demand) and nature (or supply). Yet in this case it is sufficient to treat the given "social frame," for example, monopoly, in a purely formal and simplified way, instead of analysing its numerous implications from sociological or socio-psychological standpoints.

Economic theory considers monopoly as a certain status or market organization which determines cost and price formation. Economic sociology, on the other hand, analyses the various social (inter-human) repercussions of this status. In this latter case, it is not important that the monopolist can fix the price but it is important that he is in a position to remove the competitors or to affect in another way the life and activity of other human beings.

Thus, we come to our main definition of economics, which is at once a naturalistic and institutional definition since it maintains that economics is the science that deals with economic activity or satisfaction of human wants by using means either from the standpoint of relationship between man and nature or between man and man. This *dual* character of economics is stressed in Europe by Leopold von Wiese; in America, by John R. Commons and in Asia, by Radhakamal Mukerjee. Thus, economics is largely a social science closely related to sociology and social psychology.

Only when it has to deal with an isolated activity of a single man, like Crusoe before he met his companion, is our discipline a distinctly atomistic and non-social science, exclusively related to individual psychology and technology. In addition, when economics studies some very abstract models of exchange economy, such as a stationary economy, which in a sense has a mechanical character, it is roughly an atomistic and non-social discipline. Otherwise, any greater approximation to reality cannot be entirely devoid of a social frame or market organization. Robinson Crusoe could develop only a very primitive naturalistic economic theory but no economic sociology whatsoever. On the contrary, if we develop a deep analysis of the relationship between man and nature in the sphere of man's economic activity, we do not completely "desocialize" economic theory because we must take for our starting point at least a market structure, such as free competition or monopoly. Even if we neglect the interplay of respective human relations, such as struggle for power, traditional inclinations, etc., this remains true.

We now come to the second important conclusion, namely that a developed economic theory is never fully devoid of institutional aspects and that even the most primitive approach to economic problems, such as that concerning as isolated economizing individual, is never fully dehumanized because it depends upon the knowledge of man's wants and conscious efforts. In other words, the econometric (that is, mechanical and quantitative) approach, which is now in vogue, cannot alone build up economic theory even in its most elementary form.

There still is another important conclusion that we have to draw, namely, economic theory (we do not mean economics as a whole) is dialectical in its nature because on one hand it disregards the real social background, and on the other (at least if the theory assumes a developed form) it takes into account a social frame set by the period, the customs and the given organization of the market.

The dual character of economics sometimes causes confusion, so for example, Adam Smith and Ricardo talk about social classes (land-owners, capitalists, workers) when in reality they mean the respective factors of production (land, real capital, labor). However, since the development of the Old Austrian School (Bohm-Bawerk and von Wieser) such a mistake is usually avoided. Yet the object of economics has until now often been defined from a one-sided standpoint. Take, for example, the definition given by the Russian economist Nicholas Bunge (former Secretary of the Treasury) :

“Economics is the science that analyses the social side of economic phenomena and of the laws to which they are subject.”

In our opinion such a discipline represents only economic sociology. Bunge's definition is shared in our time by one of the leading Swiss economists, Alfred Ammon who, however, in his practice does not neglect pure economic theory. A somewhat similar definition is given by Richard Ely :

“Economics is the science which treats of those social phenomena that are due to the wealth-getting and wealth-using activities of the man.”

This definition might pertain to economic theory because by “social phenomena,” one could understand simply “social frame.” Yet such an approach would not only be too narrow again, but also undesirable since the social frame is not the essence of the economic theory. It seems that Ely himself cared for a social standpoint. The definition given by Alfred Marshall is very unsatisfactory or at least ambiguous :

“Economics is a study of mankind in the ordinary business of life.”

All of the above mentioned definitions are too narrow since they pertain ultimately only to one part of economics, namely, to economic sociology. Some other economists represent the opposite extreme. For instance, Frederic Garver and Alvin Hansen declare :

“Economics is a study of the price and value aspects of human activities and institutions.”

Lionel Robbins maintains that :

“Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses.”

Such definitions are correct provided that only pure economic theory, devoid of any social content, is taken into consideration.

The idea that economics as a social science is simultaneously a pure theory and a special sociology is very distinctly advocated by Leopold von Wiese, by the representatives of the New Historical School, like Sombart, and by those economists who do not distinguish between social background and market structure, for example between an aggressive campaign by a monopolist and his ability to fix prices, but who still realize that economics combines some purely economic (that is, naturalistic) and sociological (that is, cultural) problems.

The best known advocates of this view in the United States are perhaps John R. Commons and Frank Fetter.

Let us consider the definition given by Commons :

“Economics as an institutional subject studies the problem of scarcity in respect to the relation of man to man, but as an engineering discipline it analyses the activity of increasing output in the relation of man to nature.”

This approach is correct provided that pure or “engineering” economics does not entirely neglect social structure (at least if it assumes a developed form) and provided that it analyses not only the problem of efficiency but also that of scarcity. The latter concept is a purely economic, rather than a sociological category, although the shortage of goods undoubtedly brings about many serious social problems. In addition to this, there is another point which must be stressed. Economic sociology has a more genetic (that is, evolutionary) tinge than economic theory. The sociological background of an economic process cannot be interpreted unless something is known about the evolution of culture, which, in turn, is determined largely by the changes in social philosophy, that is, in the socio-economic mentality. Yet, economic theory cannot disregard the genetic approach as soon as it reaches its highest stage or takes into account the dynamic nature of each social economic phenomenon.

Let us sum up the main propositions concerning the nature of economics conceived as a social science :

1. Economics is the science that deals with economic activity from the naturalistic as well as the sociological standpoint.

In both cases the same problems are treated but the approaches are different.

2. Economic theory in its developed form is one of the social sciences because it considers the respective social (or institutional) order, for example, capitalism, as well as the market structure, such as monopoly. In particular, the market organization must be taken into account by any economic analysis. For instance, price formation is different if it takes place under conditions of a capitalistic oligopoly or a state monopoly.

3. Economic theory can never be fully dehumanized since it is based largely on man's motivation. Man does not play merely an active part in economic life; his activity is implicitly aggressive.

4. Economics is more formal as pure theory than as a branch of general sociology because in this case it disregards the social background or the inter-personal relations that stand behind any economic process.

5. Economic theory is less genetic than economic sociology; yet in its developed form it can never be completely devoid of any evolutionary aspect.

6. If an economist is chiefly interested in the problem of the socio-economic order from the genetic (*i.e.* evolutionary) standpoint, he acts as an economic historian. If he considers chiefly the social background of different economic phenomena, his main task will be to deal with economic sociology. Should he be particularly concerned about the social form of economic action (market organization), his work will normally pertain to pure economic theory.

Thus, economics as a social science can give satisfaction to the scholars of very different inclinations.

In our present work we shall deal almost exclusively with economic theory which analyses the relationship of man to nature in its purely economic aspect; that is, from the standpoint of economic activity. To this point we have noted only that economic activity is a certain relation of man to external things. It will be helpful to develop first a scheme of propositions pertaining to the concept of economic activity. This scheme will show us that economic activity is a very complex phenomenon and can be considered from different angles. Such a scheme can be shaped as follows :

I. Metaphysical Approach

1. *In general* : Subjugation of nature by man who rationalizes and thus spiritualizes the natural phenomena.

2. *Evolutionary* : increasing human control over nature.

II. Empirical Approach

1. *Main Definition* : Economizing or selective use of the scarce means for satisfaction of man's numerous wants.

2. *Supplementary Definitions* :

- (a) In the last analysis, a choice of means, not ends. Economic activity is itself a means but not an end in itself.
- (b) Any activity that is or can be appraised at a price has or might have a "label of price" regardless of the object towards which it is directed.
- (c) Satisfying one's wants in the most rational way without violation or even modification of the goal which was set.

Economic theory, as mentioned, studies a certain relationship between man and nature. This sounds somewhat prosaic or naturalistic; yet, in reality there are some deep philosophical implications. We cannot treat them here to any great extent because they are analyzed by another discipline, namely, "economic metaphysics" which stands aside and investigates the "a priori" of economic activity. Its main representatives are Bulgakov, Sombart, and Stolzman.

Here it is sufficient to say that according to the metaphysical approach, man's economic activity means his continuous effort to subdue the limited forces of nature which impose themselves upon him as scarcity. Man gradually overcomes nature by rationalizing or rather spiritualizing it. It is necessary to remember that production is first of all creation of a form. Consequently, a cultural pattern manifests itself in the results of man's economic activity. Hegel stressed this to a great extent. Also, the modern technocratic movement has in a sense a metaphysical foundation since it believes that structural, that is technological unemployment, results from man's gradual victory over nature and therefore is a progressive and evolutionary phenomenon. Should we use the well-known terminology of Karl Rodbertus, we would say that in the long run economic activity will not represent a "logical category" to such an extent as it does in our time.

In addition to this, we can make another very important conclusion if we use the metaphysical approach to the concept of economic activity, namely, that there would be no economic problems at all and no need for a science of economics, if there were no scarcity of means and man could satisfy his wants imme-

diately without any effort (or cost). There is at present, however, a distinct scarcity because nature resists man. Consequently, the idea of scarcity is the fundamental or even the ontological principle of economic activity as well as of economics.

In the last analysis any economic phenomenon can be explained by this principle. Yet it would be erroneous to assume that each contemporary economist makes this principle the pivot of his system. Perhaps only Cassel and his followers, such as Adolf Weber or Bertil Ohlin, declare openly that the idea of scarcity is the very foundation of their scientific analysis. For instance, Cassel maintains that every social economic order labors under the condition of scarcity of means for the satisfaction of wants and therefore economics is governed by the "principle of scarcity."

There are, however, quite a few modern economists who replace the principle of scarcity by other ontological principles although no one denies that scarcity as such is a fundamental economic factor. Among the other principles on which stands modern economic theory, the following are perhaps the most important :

1. *Subjective valuation* (marginalistic approach) advocated especially by the Old Austrian School, that is, by Bohm-Bawerk and Frederic von Wieser.

2. *General Equilibrium Idea* which is typical of the mutual inter-dependence school whose representatives are for example Leon Walras, Irving Fisher and V. Pareto.

3. *Law of Great Numbers* which is characteristic of the modern statistical nomography, advocated, for example by Henry Moore and W.M. Persons.

4. *Psychic Income* which is expounded by Robert Liefmann.

5. *Economic Style* which is typical of any institutional economist.

The problem of scarcity is in principle a problem of relativity. It is possible to imagine absolute scarcity, but this usually occurs only in a subjective sense. If an individual wants something which is extremely scarce and can be obtained only with difficulty, he considers it a "rare" object. Such rarity usually, if not necessarily, has a connotation of absolute scarcity. From an objective viewpoint, however, goods usually are only relatively scarce because eventually they are made scarce in the given locality by economic (not by natural) distance which creates the so-called "non-competing phenomena" based on a high degree of immobility. With few exceptions, the monopolization of natural resources is not a "natural" monopoly. Almost every monopoly of this kind is legal, that is, institutional, or

is temporarily created by lack of knowledge. So for instance helium which was considered as a natural monopoly of Texas is now produced in the southern section of the Ukraine. Until 1942 the monopoly of aluminium in the United States was a distinctly private monopoly of relative character, since America at that time was not the sole producer of this essential raw material.

Only the non-reproducible objects of art and perhaps a few other items, such as rare diamonds, possess true absolute scarcity. Yet, in the real world scarcity is very acute in spite of its relative character. In particular the scarcity of natural resources is highly accentuated by the fact that they often are in such unsuitable forms and such in inconvenient places that it requires a great deal of human effort to make them available or ready for consumption in an indirect productive sense.

If we take a brief phenomenology of scarcity, we shall come to the following scheme :

1. Absolute Scarcity vs. Relative Scarcity.

The distinction has already been explained.

2. Direct vs. Indirect Scarcity.

When people want more of the respective good, scarcity is direct. It is indirect if people want more of the respective factors of production which help to produce a wanted commodity in a larger measure. Also, here, in the last analysis, appears an increased demand for a consumption good.

3. Derived vs. Original Scarcity.

When the given good becomes relatively scarce because the factors of production needed for its production are otherwise allocated, or because the demand for another good produced as a commodity of joint supply has substantially decreased, its scarcity is derived.

4. Real vs. Imaginary Scarcity.

The latter kind of scarcity is based on an emotion, chiefly envy, and is of a purely psychological nature.

From the empirical standpoint, economic activity appears first of all as a process of economizing scarce means and thus is derived from the principle of scarcity. In other words, when we say "economizing," we usually mean a certain status provoked by a distinct, although perhaps a temporary disequilibrium between almost unlimited human wants and the means for satisfying them which are in principle available in limited amounts.

The question arises : When does the process of economizing become a problem ?

This may happen under one of the three following conditions :

1. When people want more of a thing than is available. A country can suffer a relative over-population if its social product (or national real income) is relatively too small, or if a high plane of living cannot be maintained because of a comparative shortage of goods. Another country which has a lower plane of living would not be "over-populated" if it possessed the same amount of available economic goods.

2. When there are alternative uses for the given commodity, especially a factor of production. Even time or rather effort in time can be economized. In general, economizing is to a great extent based on choice making.

3. When there are different rates at which the commodity may be consumed over a period of time. In this case, stock is distributed over a certain period of time. Thus, economizing involves a "static" saving.

From the standpoint of the national economy as a whole, economizing means allocation of resources or determination of how the relatively scarce means of the country, especially the given factors of production, are to be used or employed. When Cassel talks about the problem of scarcity he usually means the necessity to distribute the limited productive agents over different branches of national economy.

We must take into consideration the fact that the allocation of resources is carried out in a very different way in various social economic orders.

The Russian economist Peter Struve said correctly that a national economy can appear either as a "system" (*i.e.*, inter-relationship of individual economies) or as a "unity" (*i.e.*, quasi-organism moved by a centralized single will). It never can be a "heap" because in this case, there would be only an agglomeration of isolated economizing structures barely linked with each other.

In a totalitarian (or socialistic) state, allocation of resources proceeds according to a plan developed by a highly centralized authority, representing unified will of the given "unity." The plan itself may replace a purely economic goal, for example, maximization of the national real income, by a purely political and simultaneously strategic idea of self-sufficiency. In our epoch of business-and-labor-oligopolies, that is, under conditions of unfree competition, the degree of "heterogeneity of purposes" (in "Hegel's terminology) is decreasing in capitalism so that the capitalistic national economy also comes closer and closer to a "unity."

Yet planning in such a case remains linked with the acquisitive principle, even if it is somewhat restricted and modified by interference of the modern socially minded state. The allocation of resources in a normal capitalistic money exchange economy is simultaneously influenced by the three following factors :

1. The individual economies, including the households, which are guided by market price formation and in the last analysis by subjective scales of preferences and subjective schedules of demand.

2. The commercial habits, customs (including religious fasting and other voluntary abstention) and fashion in connection with advertising.

3. The regulative activities of the state and other public institutions.

This scheme shows that the capitalistic social economic order is far less "chaotic" than some socially minded economists assume. There remains a certain kind of planning in the broader sense which is ultimately based on the "heterogeneity of purposes," although a certain tendency to limit this principle exists. Paul Sweezy contends that "capitalistic anarchy" implies the absence of conscious regulation. Von Gottl is more correct when he says that capitalism manifests regulation even if it is decentralized and incomplete. Furthermore, we must take into consideration the fact that the capitalistic national economy is a system and not a "heap" and for this reason alone cannot be literally "chaotic."

Any economic activity is in the last analysis a choice of means, not ends. A physical economic subject (that is, a man who economizes) decides how he will distribute the scarce goods or means he possesses over selected wants or ends. We must distinguish in economic life between "primary" end which is determined by the given socio-economic order (in particular by the socio-economic mentality) and "secondary" ends, that is, wants and uses.

The selection of the ruling primary end is a pre-economic activity. Yet, although it is part of a policy that is sometimes spontaneous and sometimes determined by rational or irrational motives, it ultimately decides how the scarce resources will be allocated. So, for example, a totalitarian (or socialistic) state can decide to develop a heavy armaments industry at any price. In this case the selected primary end would be strategic and political, and the resources of the country would be allocated accordingly through a direct administrative act.

Under conditions of a capitalistic money exchange economy, the allocation of resources is carried out, at least in principle,

almost mechanically by the price system (that is, by a system of inter-related individual prices). Yet, if in capitalism, the primary end, which is necessarily acquisitive, is eventually mixed with the principle of maximization of social product, it will provoke a vague feeling that the country should be industrialized. In such a case, the price system will be changed accordingly by means of entrepreneurial expectations and the allocation of productive agents will undergo a corresponding change simultaneously. Usually from the standpoint of the national economy as a whole, the scarce resources are allocated rationally. In our time of state interference, rationality does not always mean remuneration. Since under normal capitalistic conditions, the given price system reflects the preferences of the population, it may seem quite irrational at times. Yet, in this case, in contradistinction to a socialistic economy, any producer virtually is rational if he simply asks how advantageously the given resources are used, not why they are used in this way and not in another. Here acquisitiveness is rational because it is inherent in the primary end of capitalism.

In regard to an individual, we can say that the primary end is stable. Any individual normally tends to attain his personal welfare ultimately in terms of satisfaction. There can be a deviation from this rule; yet this law represents a normal tendency even in a socialistic economy. The individual's frame of mind gives a subjective interpretation of personal economic welfare. In addition, the available means (or goods) influence the ranking of wants.

The difference between the primary end and the secondary aims is especially conspicuous when we consider the ends from the standpoint of an acquisitive individual economy, that is, a capitalistic business concern. From the standpoint of a capitalistic firm the primary end is virtually set by the ruling socio-economic mentality based on an acquisitive plan. Consequently, any capitalistic firm is aiming, in the last analysis, at the highest possible profit. This primary end is a static unalterable phenomenon. On the other hand, there are quite a few secondary ends appearing as alternatives. Virtually every manufacturer has to choose between different uses for his resources. Sometimes he even has to choose between some unstable models or styles. In all these cases, any selected end is only a means, and not an end in itself.

For example, a manufacturer who possesses a stock of iron ore has to determine what he will produce from the iron. He may make some tables or stoves or benches, or he may concentrate on producing only one kind of an iron product. Whatever he chooses his primary end will be profitability and the selected

secondary end will be subservient to this main goal. If he allocates his scarce resources to the production of iron tables he will consider the chosen article simply as a pure means of acquisitive activity. He will simultaneously select the most advantageous style for the given product.

When an individual economizes he carries out a double action, namely :

1. He really acts or uses the given relatively scarce means, that is, either goods of material character or services, in a certain definite way. Thus, economizing is a certain kind of behaviour.

2. He performs this action rationally following a previously developed plan. When an individual economizes as a consumer, he cannot avoid building up a certain subjective scale of preferences which symbolizes his choice by ranking the wanted goods in the order of importance. By developing such a scale of preferences which reflects the subjective hierarchy of wants, he observes the so-called "economic law" or rather the principle of the least mean, because his scale will be really rational only if it is adjusted to the means which he possesses. This implies that the given individual must observe the fundamental principle of scarcity by trying to evaluate the things he wants in such a way that each respective want is satisfied in the most economical way, that is, at the least possible cost.

It is not sufficient for an economizing individual to develop a subjective scale of preferences that will give him optimum satisfaction of present wants. He must also learn to provide rationally for the near future. Thus, the above-mentioned economic principle simultaneously implies that satisfaction of present wants should not be inflated to the detriment of future material welfare. Othmar Spann expresses the same idea by saying that any economizing individual has to assign the given means to his selected wants by observing the "principle of adjustment" (or scarcity) and by "saving," that is, by allowing for his future consumption. Any conscious violation of the rationally developed subjective scale of preferences and of the subjective schedules of demand connected with this scale will reduce man's economic activity to a non-economic status.

Activity of an economic subject may assume one of the three following forms :

1. It can be genuine economic activity. In such a case, this activity is remunerated or paid for. It is a distinct expedient and is "economical" because it is based strictly on a rationally developed subjective scale of preferences which in the case of manufacturers will be expressed in terms of opportunity costs.

Such activity attains its aim at minimum cost without curtailing future consumption. So a manufacturer has to care rationally for building up inventory that provides for future productive consumption.

2. It can be "quasi-economic" activity which usually is defined as mis-economic or non-economical activity. Such activity will be virtually "involuntary waste." In this case the means are allocated in the wrong way and no real adjustment of means to wants is achieved. Yet the bearer of this activity presumably developed a rational scale of preferences or plan.

Since uncertainty is inherent in any economic action under normal capitalistic conditions, any expectation or forecast may prove to be a miscalculation ultimately caused by lack of knowledge. Also any firm can lose because of false expectations and thus become a bearer of mis-economic activity. In other words, any economic action can become non-economical. The main factors contributing to such a development under capitalism are the time-consuming process of production reinforced by the fact of competition and the homogeneous reaction of private firms with regard to business fluctuations.

3. A presumably economic action can be a non-economic activity. In such a case, there is an irrational dispensing with the means but no process of economizing because there is no scale of preferences which would rationalize man's activity. There can be two different cases. If an individual does not develop a subjective scale of preferences although he cannot afford to engage in non-economic activity, he is simply a spend-thrift and commits "voluntary waste." If, however, he can afford it, he is a play-boy, and it is incorrect to say he dissipates his wealth. Likewise, a priest or physician frequently acts in a non-economic way by observing certain ethical or religious motives.

Again we repeat that economic activity is a medium which functions like a mediator between the world of matter and the world of ends; and thus, so to speak, rationalizes matter by applying a system of means to materialize ends. For this reason, economic activity is affected by any radical change in the system of ends or in the system of means that increases uncertainty and makes non-economical action more probable.

When, for instance, a secondary end changes, we say that fashion is altered. If a business concern loses because it did not foresee a style change, its activity was economic although non-economical in outcome. Should it continue to disregard the change, its activity will be non-economic production or voluntary waste.

When the given system of means undergoes a radical change, we speak of the transformation of an invention into an innovation. Also here any firm can lose on account of false expectations. However only a further neglect of important innovations will deprive its activity of economic character.

When the primary end of economic activity or its ultimate goal is non-commercial, for example, war, which is in principle a waste, it can still be conducted with regard to the principle of least mean, that is, economically. In this case one will attempt to reduce expenses as much as possible. Yet, of course, there will be a certain difference between normal capitalistic procedure and an abnormal one in the event of war, because, in the latter case, the principal economic motive will not be the usual one of profit-making. Then the acquisitive motive will function simply as a leading supplementary principle. In such a case, an attempt will be made to reduce the objectively normal costs, but this does not necessarily imply that a net revenue will appear because conditions will be abnormal. This is true also of a totalitarian (or socialistic) economy.

Any productive action which is an end in itself is a game but not an economic activity. When some one produces a table for amusement or a poet writes a diary for himself, there is no economic activity. Yet if the pastime or the amusement were productive, that is, created form utility or a spiritual utility and enter the economic process in the future, they will become an economic action. This will be the case if the poet's widow sells his diary. Here the pastime develops a posteriori as an economic activity although originally it was an amusement. When the pastime has no productive tinge at all, like dancing for fun, it in itself has no relation to economic life whatsoever. We cannot, however, follow Max Weber or Alexander Bilinovich when they contend that the work of a great artist which is made to order (*i.e.*, means for him a remunerative expedient) has only an economic tinge but as such does not belong to the realm of economic activity. In our opinion it is a distinct economic act even if its product is rich in spiritual values. Since economic activity is never an end in itself, it must be a remunerated activity. Under conditions of a developed money exchange economy where the capacity of getting something is always expressed in terms of money, any economic activity carries a "price-tag."

In this connection we must make a distinction between two cases :

1. Action is economic because it is paid for, that is, is strictly remunerated. This is the normal case, for example, a lawyer is paid for his direct services, defined as "legal advice."

2. Action is economic because it might be paid for, provided that it is not an end in itself. For example, the dancing of a host should be considered as economic if he saves the expenditure for a hired entertainer. The same thing can be said about a man who shaves himself or cooks his breakfast. In all of these cases, an individual performs an act which could be avoided if a certain expenditure were made in obtaining another man's direct service.

It is irrelevant whether a paid and thus an economic action is distinctly directed towards nature, or matter, or does this in a somewhat disguised form. For instance a barber cuts material hair but gratifies immaterial want, the desire for beauty or comfort. It is evident that an economic (paid) action can pertain distinctly to a world of immaterial goods, for example, remunerated activity of a teacher or priest.

We have already seen that economic activity represents the main object of economic theory and that this activity is caused by a relative scarcity of means (goods) and relative abundance of ends (uses and wants). We have likewise found out that economic activity is supposed to be simultaneously rational and pragmatic since it is based on a rational subjective scale of preferences and is an expedient.

In addition, an economic subject not only acts rationally himself, but expects any other economic subject to behave in a similar way. The theory of elasticity of demand and the theory of an oligopolistic price formation are based in particular on the idea that each economic subject acts rationally. Any oligopolist expects that his homogeneous competitors will react to his moves in a rational way. Spann especially stresses the fact that economic life under normal capitalistic conditions is a "realm of means," that is, is in its essence pragmatic. We can definitely say that any major modern economist (regardless of Veblen who gave special attention to the instincts) in principle admits that economic activity is simultaneously rational and pragmatic. Only the emphasis is different. For instance, Sombart stresses rationalism, while Cassel and Spann stress pragmatism. At any rate, today there is an almost universal agreement that economic activity has a rational bias. Even Keynes as an economist is concerned with rational behaviour in an irrational world.

There is, however, disagreement in another sense, namely, how far can motivation or valuation be identified with economic action and from what standpoint is this motivation exercised by an economic subject who functions as a bearer of economic activity.

The first question is answered differently by four leading approaches to the problem of motivation in modern economic theory, namely :

1. The *psychological* approach maintains that motivation (or valuation) is identical with economic action or economizing and is the main object of economic theory. This standpoint is represented by Von Wieser, Jevons, and especially by Robert Liefmann.

2. The *positivistic* approach contends that valuation is a pre-economic act, yet, it must be considered as an object of economic theory (Marshall, Bohm-Bawerk).

3. The *mechanical* approach states that economic theory should neglect the problem of motivation. Typical of this standpoint are Peter Struve, and in his later development, Cassel.

4. The *synthetic* approach admits that motivation necessarily is inherent in any economic action and sometimes it even absorbs it. This is advocated for instance by Sombart.

The first approach is not quite uniform. Von Wieser goes so far as to maintain that economic theory is "applied psychology" of an individualistic character. Yet he develops his theory in a realistic way, for example, he assumes that hunger is not a feeling but a desire for food, as a certain demand. He considers this actualized desire as the object of economic theory. Nevertheless he correctly stresses that behind any effective demand stands a certain feeling like hunger, love, ambition, etc.

Perhaps still more radical is Jevons for whom economic theory is a science that deals with the calculus of pleasure and pain, that is, with a hedonistic calculus. He paid a great deal of attention to this problem but failed to be consistent in his work.

The most consistent is Robert Liefmann. For him economizing is not an empirical allocation of means but an act of deliberating as to the manner in which they should be allocated. This psychological act leads to the creation of a purely psychological balance sheet which shows the similar result, namely, a psychic net revenue. Liefmann proves to be consistent in his approach because he usually takes for a starting point, not quantities like goods, but considerations. Even costs or capital are interpreted by him as psychic phenomena.

On the other extremity stands Struve, one of the leaders of the mechanical approach, who maintains that motivation is a non-economic psychological problem and therefore is of no use to a professional economist who deals with concrete prices. This is, however, wrong because behind any price stands market value and any value is a result of economic appraisal.

According to the positivistic (intermediate) approach, represented by Marshall, the act of deliberating is a pre-economic

phenomenon, since an individual does not economize by developing a subjective scale of preferences. Nevertheless, an individual cannot economize unless he has such a scale. Thus, valuation according to this school, is not identical with economic activity but still is inherent in it.

Even Robinson Crusoe's economizing can be imagined only if we can postulate his psychology or rather his motivation. Economic theory is by no means applied psychology, but still economics is closely linked with both individual and social psychology. The latter form is essential for economic sociology. Frank Knight means the same thing by saying that an individual in economic life is not only a spectator but also an actor or agent who is moved by his motives. Even a pure consumer is not a mere bystander.

Finally we come to the synthetic standpoint, represented in particular by Sombart. This approach maintains that economic action sometimes can be a purely psychic phenomenon (in conformity with Liefmann's teaching), but this case should be considered as an exception. Yet, a rational motivation (or valuation) is always a constituent of economic activity.

One can even agree with the British economist Philip Wicksteed that the theory of value and exchange are based largely on applied psychology.

Since economic activity has a rational nature and is expected to be based on a certain conscious motivation, we like Henry Pesch, can maintain that this activity is "*actus humanus*", that is, pertains to a man as a human being. Economic action is not merely the act of a man in the sense that sneezing or falling out of bed are acts of a man. But what about a non-human being, for example, a dog? One gets the impression that it also economizes. Yet, one should not draw such a conclusion without some reservations.

We must make a distinction between :

1. Economic activity in a *narrower* or scientific sense which is rational in its essence and thus can be only man's activity, a "human act" in Pesch's sense. Economics pays attention exclusively to this kind of activity.

2. Economic activity in a *broader* sense which is considered simply as getting a livelihood. In this case we can admit the existence of a non-human economic life. Yet this life is so irrational and so stagnated that it is rather a biological problem. No economic history in this case is possible. The description of an animal's life would be a catalogue of some permanent instinctive actions showing necessarily a high degree of irrationality.

In addition, this irrationality is inborn and constantly repeated. Any dog, in any place and at any time spends much effort to get a bone which he cannot eat or guards the bone which he does not need. This reminds us of similar actions of a human infant who is still unable to actualise its reason. On the other hand, any economizing adult tends to perform rational economizing by observing the principles of adjustment and saving.

Werner Sombart states that beavers are good architects without being able to realize that they are. They build instinctively while a human architect has an intellectual exemplary cause in his mind, even if the dam proves a failure.

Furthermore we must consider the fact that man's economic activity is directed in part to non-material phenomena, for example, teaching which concerns the reason of the students. Such activity may also satisfy an immaterial want by handling material, like a barber's regular work. This happens because a human being economizes and actualizes his effort as an immaterial good, "service." Even though it is said frequently, in general it is wrong to maintain that man's economic activity cares exclusively for the satisfaction of his material wants with material goods. We can only maintain that such an activity gratifies primarily various human wants by means of material goods.

A non-human being satisfies only its physical desires by using material goods when it is concerned with getting its living. Thus, when a non-human being, for example, a dog, renders a service which is paid for, that is, is economic, it belongs entirely to the sphere of his master's economic life. If a dog is combed by a servant, it is his master's want that is gratified. If a horse pulls a wagon, his master gets the remuneration because the respective service is entirely attributed to man's initiative. When a non-human being satisfies its instinctive immaterial want, for example, a cow feeds a calf, there is no economic activity because an animal cannot employ another animal as a nurse. Should the cow in question be replaced by another hired cow, this would be the owner's economic activity.

On the other hand, any human being carries out a very complex pattern of economic activity. So, for instance, when a church building is constructed, a religious immaterial want is satisfied by using material means. When a priest begins to officiate in it, a service is rendered which likewise gratifies an immaterial need. When a priest buys material for waxing the floor of the church, a mixed want is satisfied, in particular a desire for physical comfort.

Adam Smith paid a great deal of attention to the peculiarities of human economic life. According to him, an animal,

in contradistinction to man, does not at least consciously exercise division of labor and exchange of one good for another.

Now we see exactly how economic activity in a scientific sense pertains only to a human being because man not only cares for a primitive earning a living, but also tends to adjust his scarce means to his numerous wants which are partly of an immaterial nature and tries to bring about a certain equilibrium between his present and future chances of satisfying his desires.

The question arises as to the manner in which a human being conceived as an economic subject exercises his motivation. This problem is treated differently because it necessarily involves a certain institutional setting. In other words, motivation on behalf of an economizing individual when his activity is analyzed by economics may be regarded from different standpoints. This question is answered by modern economists in one of the following ways :

1. *Pure economic theory* considers an economizing individual as a pure "economic man" (*homo-oeconomicus*) who acts like a rational being and is accustomed to balancing his pleasures against his pains by using money as a common denominator or by expressing his psychic balance sheet in terms of hedonic units.

Such an individual simply tries to maximize his material gain in terms of money or his psychic revenue in terms of hedonic units and does not make any sacrifice unless it is pragmatic from the standpoint of his personal economic welfare. He will be, however, a *perfect* economic man only if he has a large stock of technological knowledge, possesses complete foresight and is absolutely free from any emotion, like ambition, affection, emulation, rivalry, etc. Thus, "homo-oeconomicus" is conceived by the ordinary economic theory as a "pure" but not as a "perfect" economic man, since the latter represents a rather extreme simplification of the model in question.

It is evident that under unfavourable conditions, a rational economizing individual will select the course of action which seems to promise the least amount of loss (or dissatisfaction, usually measurable in a money price). In other words, if he is, for example, offered a number of distasteful jobs, all at the same rate of remuneration, will he choose the job that promises to be the least disagreeable. If he is offered a choice between identical articles at different prices, he will choose the cheapest. Roughly speaking, a pure economic man never forgets about the principle of minimum means. Economic relations of such an individual are strictly impersonal, or as Frank Knight puts it :

"The second party has a shadowy existence as a detail in the individual's use of his own resources to satisfy his own wants."

Only two modifications of rationality are admitted by pure economic theory, namely :

(a) The scale of preferences developed by an economic man is to a large extent subjective. For instance, a man can prefer diamonds to bread if the latter object has no degree of scarcity from his subjective standpoint and if he has the necessary ability to pay for the luxury. If a rich man buys an expensive genuine diamond, there is no voluntary waste.

(b) The individual does not go through a process of reasoning all the time because custom, or a pattern of cultural conduct, is a great saver of mental effort. Such a custom is necessarily rational since it arises from a careful observation of advantages and disadvantages of the course of conduct in the given traditional environment which is in particular emphasized by John Ise and Albert Meyers. John M. Clark stresses, however, the fact that economic man follows customs frequently not only because of the presumed rationality of customs that induces to follow them but also because there is a normal tendency of a human being to avoid making close rational estimates whenever possible. This is emphasized also by Professor Mukerjee of India. Finally, J.M. Keynes stresses that "conventional judgments" which are based on a "general concurrence of opinion" are frequently the very basis of market-place behavior.

On the whole, the essential assumptions of pure economic theory are the following:

(a) There is economic freedom, that is, every man is allowed to develop his subjective scale of preferences and to pursue an occupation according to his rational inclinations.

(b) Everyone follows his own self-interest, develops his own utilitarian calculus and is not moved by non-economic, in particular, by altruistic motives.

2. *Economic sociology* likewise assumes that the economizing individual enjoys economic freedom; only, in this case, it is not a positive (complete) freedom which enables the individual to develop his activities to the fullest extent but rather a formal freedom. In contradistinction to a positive freedom which is not typical of our time, such an economic freedom does not remove the power of the economically strong to dictate. Furthermore, it does not give everyone the opportunity to try to get the highest amount of personal satisfaction.

Yet, an economizing individual as sketched by economic sociology is likewise hedonistically minded; only the motivation of his economic activity is more complex and is largely determined by his social environment. The man here is in a sense "homo socialis" as stressed by Commons.

Especially important in this connection is the custom as a social pattern which is enforced by group opinion. When an individual follows custom, he frequently realizes that his modified scale of preferences somewhat deviates from his personal hedonistic ideal. On the other hand, if he follows a habit, for instance, buys a certain brand of coffee, to which he is accustomed, he seldom realizes that he suffers a loss because another newer and cheaper brand could be acquired. In this case there is practically no sociological problem because under such conditions his choice making can be entirely "unbound." The customs are, however, consciously observed, not only because the individual assumes that they are rational but also because an eventual material sacrifice in such a case is frequently over-compensated by an increase in public esteem.

Economic man from the standpoint of economic sociology usually displays the following motives :

(a) The desire to gain the esteem of friends; acceptance in whatever circle is of importance to him. For instance, an individual rents a fine house to impress other people although his income does not favor such an expenditure. In this case the individual has to do with "conspicuous consumption" in the terminology of Veblen, which is in a sense derived from that of Marx.

(b) The desire for power, frequently in terms of investing power, that is, ambition to be able to act "rich."

(c) Desire for activity or an "instinctive desire for workmanship" in Veblen's terminology. Such an instinct sometimes hurts the principle of economizing, especially when it is connected with extreme idle curiosity. Also an "excessive parental bent" may enhance one's economic activity. All of these instincts usually are in part influenced by environment and thus are no longer pure "instincts."

(d) Religious or superstitious purposes. For instance in Eastern Siberia, the non-slavonic natives frequently neglect agriculture because they are afraid of disturbing the spirits who presumably inhabit the soil.

In all of these cases, an economizing individual often acts emotionally and somewhat offsets his rational scale of preferences. He does not, however, dissipate his wealth, that is, does not commit voluntary waste so that he still remains an economic man "sui generis."

Sometimes, the above-mentioned non-economic motives, like desire for prestige, quest for power, can be rationally dis-

played by a pure economic man and for this reason can become an object also of economic theory. For instance, a person can tend to increase his money income in order to be able to purchase a luxurious automobile which will impress creditors or customers and so will increase his "income getting power" in the terminology of Pigou.

Yet in such a case, economic theory disregards man's desire for distinction which is not economic in its essence and considers as his specific economic primary end, a desire to acquire an additional material wealth. On the other hand, economic sociology will try in this case to find out how the new splendor of the individual in question has affected inter-human relations.

3. According to the economic theory developed by those who advocate a collectivist, especially totalitarian (that is "politicized") economy, the rationality of economic man is largely artificial because his scale of preferences is derived from that of a collectivist social super-structure, the given totalitarian state. Well known is the attempt of one of the leading Italian economists, Professor Carli, to replace the usual "homo-oeconomicus" by "homo corporativus" (corporate man). According to him such an individual develops his scale of preferences while considering the ethical or rather political ends of the state. Carli expresses this idea as follows: "Man's valuation must be an integral part of the state's, composite scale of preferences while the non-commercial corporations act as mediators and help the state to shape even the individualistic wants according to its collectivistic plan."

Similar attempts were made in Germany and in Soviet Russia. For instance, Rath transformed economic man into a racially and patriotically minded person while one of the former leading Soviet economists, Nicholas Bukharin, made of him a communistically minded enthusiast. Such a strictly institutional approach to the concept of economizing individual is undesirable for three reasons:

(a) An average man who economizes is simply unable to adjust his consumption and investments to a politically determined and highly changeable scale of preferences, developed by a collectivist social superstructure.

(b) The whole economic life could become chaotic or at least utterly unpredictable if any economizing individual acted as a self-sacrificing politically minded man and disregarded rational hedonistic calculus.

(c) One has to admit that an average man is unwilling to restrict his final consumption in favor of some alien political

purposes. For instance, Soviet Russia had to levy an assessment on its subjects in order to finance the Chinese Communist Army, since almost no one was willing to make a donation.

Yet we cannot deny that in Soviet Russia, any economizing individual, even as a pure consumer, gradually learns to modify his scale of preferences in accordance with the will of the state. This is in particular true of a producer who is not an entrepreneur but a mere cog in the collectivist production because some intangibles serve as the most important incentives. A Soviet subject cares more for prestige than for money making. He has little opportunity in any way to enjoy a luxury or to make a free remunerative investment. Nevertheless, he can be interested in getting a bonus in kind, for example, better apartment, possibility of going to a resort on a vacation, etc. On the whole, the Soviet economizing individual has a quasi-military frame of mind and is susceptible to such peculiar incentives as an advertisement in a newspaper containing his picture and praising him as a "labor hero," decoration (in particular with the order of the Red Banner), a success in the so-called "socialistic competition" in which every factory of a given kind tries to set a record etc. On the other hand, accumulation of material riches is rather dangerous for a Soviet subject who may thus transform himself into a "class enemy." Furthermore, coercion likewise provokes a "socialistic emulation" and thus serves as a great incentive because every manager and every specialist is liable to a severe penalty if he does not fulfil his assignment; while any worker can be accused of being a "dangerous idler."

4. Some contemporary economists like William Vleugels or Hans Peter advocate a certain compromising approach to the concept of economic man in economic theory. According to them, such a man should rationally care for his self-interest. Yet, his motivation should not entirely disregard some objective purposes. He must, for example, avoid anything that is forbidden by the given legislation, like unfair competition. He should make some expenditures required by the essential interests of the nation, for example to buy war bonds or to curtail his consumption of food once a week to save some money for the poor as according to the German principle of "one-dish meal." Finally, he should abstain from excessive money-making or dissipation. We must admit that such an approach is permissible because in this case economic man does not cease to be a rational being but remains free to select his preferences. However, since altruistic motives appear in such a case only as a deviation from the man's hedonistic conduct, they can be easily disregarded by pure economic theory which needs an instrumental simplification and can be shifted to economic sociology which is implicitly interested in ethical and irrational behavior of an economizing individual.

It is evident that under normal capitalistic conditions, some great institutions like the church or universities as well as quite a few politically, altruistically and emotionally acting individuals shape their scales of preferences, not in conformity with our hypothetical pure economic man. This fact does not imply, however, that pure economic theory should drop the concept of such a pure economic man as an instrumental device as is suggested by Veblen. On the contrary, we must insist that in economic theory the economizing individual or "economic man" has to appear (at least under conditions of a normal money exchange economy) as a rational being who develops a normal (that is, rational) subjective scale of preferences and aims at gratification of his sound self-interest. His hedonistic calculus is quite logical because such a man would not undergo any pain which would not be associated with a certain subjective satisfaction or pleasure. Any deviation from this normal type of economic man will bring about a series of complications obscuring the picture of a normal process of economizing and will involve quite a few problems which can be solved competently only by psychology or sociology.

Of course, there is no doubt that any deviation might bring our economic man closer to reality, but might also provoke a confusion because complex reality can never be grasped at once in its entirety. So, a logical simplification is the best instrumental device for any theory. In other words, we use a certain abstraction which does not distort reality at all because at least some economic subjects, important in our time, namely producers and consumers of the factors of production, usually act in accordance with the principle of minimum means, that is, strictly rationally, and because the average consumer of finished goods tends under capitalistic conditions to imitate the conduct of the pure economic man. Very typical in this connection is the expression, "Let's talk business now", that is, we have to forget about everything except our mutual self-interest.

We have to turn now to another problem which is rather complex, namely to the relationship between economic activity and technique or technological activity. There is a certain tendency to identify these two cases of human activity because they have something in common, namely :

1. Technique, like economic activity, belongs to the realm of means.
2. Technique as a method of performance is inherent any trained or vocational act which is essential for economic life.
3. Technique varies with the change in economic style; for instance, it becomes more risky or less risky more aggressive

or less aggressive when the social economic order changes. Yet both phenomena are different.

Let us take a scheme of comparison which reduces the distinction between economic activity and technique to the following three propositions :

1. Technique is only the selection of means for the given end; economic activity is, however, something more because it also implies a choice among the secondary ends (uses and wants). A technician frequently applies a given means to the given end. Even when he is creative, he uses a given fundamental means, for example, uranium, and tries to find the best mode of action by testing it under different conditions. Also, in this case, the technician does not in reality choose his end. Thus, technique is still more a "realm of means" than economic activity. In general a technician asks only *how* the given means should be used, while the economist asks *whether* they would be used with regard to the given end.

2. The engineer applies the principle of minimum means, but in different sense than does the economist. He is interested exclusively in technological productivity which he wants to increase in the most efficient way but he forgets entirely about its profitability (or cheapness). In terminology of Reverend Cronin, a technician cares only for the physical productivity and not for the value productivity. A laboratory of a big manufacturing concern creates devices which are examined by its commercial research department. Progressive inventions are rejected very often because they "do not pay." Students of economic history know how often revolutionary inventions are neglected and are transformed into revolutionizing innovations a century later or even rediscovered when the conditions change from a purely economic standpoint. For instance, an electric incandescent bulb was invented in the middle of 19th century in Russia by an engineer, Lodygin and rediscovered somewhat later by Thomas Edison. In our time "monopolistic" concerns sometimes buy up patents and leave them unused until they see fit to employ them.

3. Economic activity is a sphere of culture, such as religion, fine arts, science, etc. Technique in that respect is inferior because it is simply a mode of procedure. This difference is stressed by Sombart and Veblen. Technique changes only under the influence of the "spirit of the age," (in Hegel's terminology), which is international in its essence, while the economic life of a nation is sensitive to any change in the socio-economic mentality of a given people. If, for instance, Saudi Arabia begins to employ modern technique, it does not imply that some peculia-

rities of economic life will be lost. In other words, it is easier to transfer technique to another country than it is to transport economic customs. On the other hand, we cannot deny that technique is a great productive revolutionary force stimulated by knowledge. It practically shapes evolution, even social progress. This is the reason that Veblen, leader of the American technocratic movement, expects engineers to become the ruling group in a completely mechanized and automatic economy. He disregards, however, the fact that the most important task of such a future state will be organization of leisure which will require leaders far more cultured than the technically-minded engineer.

At this point, we know enough about economic activity to be able to give its full description. Economic activity can appear in the following ways :

I. As any remunerated (or priced) activity that cares for the satisfaction of another man's wants, that is, satisfies him or enables him to gratify the wants of another individual. It can be :

1. A *preparatory* activity which provides the means for the future or makes the satisfaction of present wants possible, for example, construction of a factory or of an apartment house, or preservation of food by cold storage. John Commons and Paul Samuelson point out correctly that the bulk of economic activity is directed toward the future.
2. An immediate satisfaction of another man's wants, for example, sale of a commodity by a retailer, remunerative lecturing.
3. Intermediate activity which simultaneously provides for the future and fulfills the satisfaction of a present want, for example, manufacturing of a commodity for a wholesale dealer.

II. As any activity that is not an end in itself and cares for the satisfaction of man's own wants.

- (1) Preparatory activity of different kinds, for example, home canning for the winter, Christmas shopping, hoarding in some cases, etc. Shopping is normally a preparatory action even if the moment when the satisfaction starts is near, for example, buying a shirt to be used in a couple of hours. Furthermore, shopping is an economic activity because :
 - (a) One provides for a want which is still not satisfied. The action here is in principle a

means because shopping as a mere pleasure is exceptional.

- (b) One acts in a rational way by applying the principle of the least mean.
- (c) One could employ somebody to do the shopping, for example, a cook who is in charge of it.

Hoarding also is an economic action sometimes. For example, when an individual buys gold coins in order to hoard them as more stable purchasing power instead of buying an insurance policy. In this case, a certain goal is attained with a cost saving. Danger of inflation and social unrest make such a hoarding very probable.

- (2) Intermediate action which is not an end at all because it is preparatory in its nature but nevertheless may bring immediate satisfaction, for example, studying or acquiring knowledge in order to obtain a diploma. Such action is distinctly economic since it is pragmatic. Furthermore instead of acquiring knowledge one can employ a secretary or pay for the studies of a secretary, a practice used in the Orient. From a purely economic standpoint to learn means to save an expenditure. If one is illiterate he must employ someone to write a letter. When an action is pragmatic, or is a means, but cannot be performed by an employee or, in other words, is a pure process of living, it is defined as final consumption and cannot be considered as an economic act; for instance, an individual consumes food that he does not enjoy and does it without any practical reason as would be the case if he wanted to build up his muscles for a professional sport.

III. As an economic action which is purely psychological or rather a mental phenomenon.

1. (*Liefmann's case*). Developing a man's rational scale of preferences is an economic action in itself. A man may relax to deliberate for a while and to plan his future expenses. In this case, the individual figures out how he can gratify his wants in the near future in conformity with his personal hedonistic calculus. Such action is economic for the following reasons :

- (a) It is not an amusement but a rational effort.

(b) It involves economic principles of adjustment and saving.

(c) It can be carried out by an employed secretary.

Yet, Liefmann somewhat exaggerates for two reasons :

(a) All economic activity cannot be reduced to such a deliberation. On the contrary, this mental act is usually quickly followed by another economic action, normally shopping. In addition sometimes shopping is carried out in conformity with a subconsciously developed scale of preferences.

(b) Developing a man's subjective scale of preferences is not a purely psychological or emotional act but has a distinctly rational character. In other words, it is a "subjective" action only in the sense that it represents a distinct mental effort of the given individual.

2. (*Sombart's case*). Deliberation that economizes man's effort in a very restricted period of time. In other words, it is possible to distribute mentally the given means over wants which are selected in a brief period of time. If an individual decides twenty minutes before the departure of his train that he will devote ten minutes to smoking a cigarette which he already possesses and the remaining ten minutes to reading the newspaper he has in his pocket, he practically performs a mental act which absorbs the given economic activity since he distributes the satisfaction of two selected wants (or secondary ends) and two already given means over a given short period of time. In this case his limited energy can find only a definite restricted application. Here the deliberation but not the resulting behaviour (*i.e.* smoking and reading) belongs to the realm of economic activity.

There remains still another approach to the concept of economic activity, namely, the *teleological* which analyzes this activity from the standpoint of its sublimation and purposes and thus involves the problem of the welfare of an economizing individual.

Let us take some propositions pertaining to this aspect of economic activity. The following scheme will give us the final approximation to the concept :

1. The economic activity of a nation tends to approach a norm, that is, an ideal status which is designated as a "standard of living." Such a standard is highly dynamic so that it frequently changes in place and in time. Any major change in the productive forces of the given national economy influences its standard of living. This norm is a goal which is approached but

never exactly reached. The actual material welfare (or still better, the degree of welfare) which usually is defined by laymen as "standard of life," is considered as "plane of living" in economic theory. This plane of living constantly tends to rise and thus pushes the standard of living which serves as the norm toward which it gravitates. This also implies that the standard of living of any nation must change in time and consequently is a highly dynamic phenomenon.

The standard of living is determined by two factors. First of all, it is influenced *indirectly* by technological development which raises the physical productivity of the given country and thus increases its social product. The reason is that the actual plane of living depends in a large measure upon the size of this social product. The institutional system of distribution sometimes may diminish the positive effect of the rising productive efficiency of the given country. It will hardly upset it entirely however. Usually a country which has a greater technological productivity can afford higher wages even in its foreign trade. Its exported products will not be more expensive than the products of a country with lower wages but lower productivity. When, however, the plane of living rises, the given nation tends to raise its standard of living likewise because any nation, like any individual, is subject to the law of an unlimited expansibility of wants. Thus, the standard of living is not a static but a highly dynamic or even evolutionary norm.

The standard of living of the given nation is influenced *directly* by the socio-psychological development which is of great importance. For instance, at the present time, American public opinion, which in a sense is a tool of the socio-economic mentality, favors a campaign against technological unemployment. Hence, in this country we have the promise of the government to enforce a full employment program. Simultaneously, in Great Britain, the state has already introduced gratuitous medical aid. Scientifically speaking, this trend means that the standard of living which is a social-psychic phenomenon is being raised and that the practical life will tend to push the present plane of living toward this new higher norm. We do not know how near the plane will approach the new norm, but usually the standard of living acts as a magnetic force. Thus, the standard of living and plane of living influence each other.

2. Economic activity can be considered as a great pedagogic tool, or, as Frank Knight says, economic activity is an agency for formation of character, in particular of taste for competitive sport as well as a tool-forming wants, that is, an agency for the formation of a high standard of living. We may add that in the Soviet Union economic activity has become a tool of the so-

called "socialistic emulation" which has an ideological tendency and is supposed to train the man for a "collectivist sportsmanship." It should be noted that also Marshall stressed the character-forming effect of a work.

3. Economic activity can be sublimated as a creative self-expression of an individual because man's creative spirit manifests itself either directly or indirectly in the result of any human productive effort. Almost every form utility is in a sense a cultural symbol.

4. Any economic activity involving at least two persons must be bilateral, or in other words, must be wanted and remunerated by somebody. Yet, the opposite party should not only pretend that he needs the services in question. Not every economic activity is, however, implicitly productive. When we say that economic activity is bilateral we mean that an economic action must be wanted by someone who is willing to pay for it. In other words, an economic action must create objective utility. It must be able to satisfy another man's want, or the wants of an entire nation.

An economic act can be a unilateral action only when it is performed by an isolated individual such as Robinson Crusoe before he met his companion or when it is a mental effort. Otherwise, it will usually be bilateral. Piracy, which necessarily involves two persons, is not an economic activity because it increases an individual's real wealth without rendering any service. It is a strictly unilateral act. On the other hand, if a gangster pays his agents for robbing other people, their activity (not, however, the activity of the leader) is economic from a purely economic standpoint.

Gambling is a more controversial phenomenon. If an individual wins a fortune in a game not as a pastime while doing this as a professional gambler he performs an economic act even if his gain is disproportionate to the service which he renders to the losing party. In principle his action is bilateral and pragmatic. Also any person who has a gambling house is carrying out economic activity because he satisfies another man's desire for wealth and adventure. In Europe, there is a small independent state, Monaco, which derives considerable wealth from large scale gambling.

Some economists deny that gambling, including pure speculation, is an economic act because the gain of the winning person usually is disproportionate to the services rendered. Yet, this is a dangerous proposition because a monopolist and even an oligopolist frequently gets a disproportionate profit in the same

way. No one, however, denies that they are carrying out an economic activity. The comparison can be in favor of a pure speculator or gambler because he runs a greater risk than a monopolist and his disproportionate gain can be easily wiped out by a likewise disproportionate loss. Yet the activity of a gambler is by far more assailable and really differs from that of a monopolist but in another sense; namely, the activity of a monopolist is productive even when he displays an extreme acquisitive proclivity. The activities of a pure speculator and of a gambling individual are distinctly unproductive. This difference will become clearer after we have found out what we understand by a productive action.

As mentioned above, the bilateral character of economic activity implies that the "opposite party" should not only pretend that it needs the services in question. If for instance, the Government employs some otherwise unemployed workers to bury and dig out some bottles filled with paper money (as Keynes suggests) there will be a certain "public work" based on a disguised dole but not an economic activity. Furthermore, if a remunerated instructor teaches a boy who considers himself as a victim, it is not the child but either his parents or the state that represent the respective "opposite party" and for this reason rationally acquire the teacher's services.

Sombart and Veblen emphasize that from a genetic viewpoint the specific weight of economic activity has increased because common robbery under ordinary modern capitalistic conditions represents a less normal case than the piracy three or four hundred years ago.

CHAPTER II

PRODUCTION AND PRODUCTIVITY

The concepts of production and productivity have been somewhat controversial since the beginning of economics. The first scientific concept of production was given by Aristotle and was inherent in his philosophy. According to him production was first of all, an arrangement of matter by educing a new form. Every unfinished good is simultaneously a form and crude material from the standpoint of a higher form. Thus, a semi-finished product is a new form in respect to the previous raw material and is matter with regard to the respective finished good. For instance, cotton yarn is a form of cotton but matter which is actuated into the cotton fabric.

This theory of production was based, atleast in a large measure, upon Aristotle's theory of "entelechy," or as we might say, on the idea of metamorphosis. In other words, it is assumed that any matter experiences a prolonged change from one form or shape into another one under the influence of proper and sufficient causes and thus fulfills its self-realization. Aristotle was especially impressed by the process of vegetation which he observed in agriculture. For instance, a maple seed becomes a maple tree and not an apple tree. Consequently, a maple tree is entelechy of a maple seed or the final form into which it develops by actuating under due conditions the potencies of the seed. This principle also holds true with regard to manufacturing, although here it is less conspicuous because the producer can select among alternative forms. Yet, if he handles iron ore as his raw material he will have to produce an iron product and not a copper product.

According to Aristotle that activity is productive which creates a new form either "as by magic" as in agriculture or by labor as in manufacturing. He considers commerce and transportation unproductive because they do not create new forms.

Until now, we follow Aristotle when we consider the process of production as a hierarchy of consecutive stages, in which the given raw material is ripening and developing into a congenial finished product. In other words, one must admit that Aristotle introduced the idea that there is a certain period of production composed of successive or vertical stages. Aristotle himself considered the empirical process of production rather as an illustration of his theory of entelechy. Yet, he realized that there

is a certain peculiar production before the process of metamorphosis begins, at least before this process becomes visible to the human eye. For instance, in the case of cattle breeding there must be a calf as a certain net surplus product before it can develop into a cow. This idea, however, was elucidated much later by the French physiocrats, and in particular, by Quesnay who went too far in that direction by assuming, in contradistinction to Aristotle, that only an activity which originates a new net surplus product is productive. In other words, according to them, agriculture including cattle breeding or the process of vegetation (as a process of biological maturing) is productive. Manufacturing on the other hand is unproductive because it creates only a new form, that is, an additional man-made utility but not a net surplus product. Now we realize that a new product (new in a physical sense) can arise as a new bearer of original utility sometimes outside the natural process of vegetation, for instance, in the chemical industry which belongs to the realm of manufacturing. In other words, the appearance of a new net surplus product may sometimes distinctly coincide with the creation of a new man-made form. Consequently, if we want to uphold the standpoint of Quesnay, we practically have to go back to Aristotle and admit that not only agriculture, including cattle breeding, but also manufacturing is productive. Yet, the physiocrats made a lasting contribution to the theory of production by elaborating on the concept of technological productivity. At present, we are used to compare the creation of a physical net surplus product with the creation of a new surplus value which is in a sense a psychological and, in our time, also a distinctly monetary phenomenon. Thus, technical productivity ultimately is brought into juxtaposition with profitability. Should we use the less scientific terminology of Horace Taylor, we would say that the making of goods is compared with money-making. If we consider production from the technical standpoint we easily come to the conclusion that at times manufacturing has a resemblance to agriculture; in both cases, man may bring into contact different energies and as a result of this action a new net surplus product, in a technical sense, appears. For instance, in agriculture he unites soil and seeds, which are distinct sources of a creative non-human energy and thus may get the necessary crop.

Let us consider some cases where manufacturing has a resemblance to a biological process of vegetation and also where a surplus product in the narrower sense appears outside the production of material goods.

1. Two bearers of non-human energy are brought into contact while a catalyzing agent is introduced and provokes a chemical reaction. In this case, the process of transformation of the given matter is so close to a biological process of vegetation

that even a quantitative effect can be expected. Besides, one can hardly emphasize under such conditions the creation of a new form but instead must stress the production of a new substance conceived as a new bearer of utility. This case is typical of modern chemistry.

2. Manufacturing sometimes picks up free non-human energy which increases the original utility of the given material without being taken into consideration by cost accounting. A good example is the primitive process of tanning when hides were treated in the sun. Some economists, for example, Jurgens Seraphim, consider the increase in original utility in such a case as a certain net surplus product. This standpoint should be contested. Yet, even if this proposition were correct, there would be some distinct differences between such a case and that considered in our first paragraph. There we meant the use of a natural resource, such as a chemical element, which is priced. In the second case, however, we mean a free unaccountable energy such as sun rays or oxygen that is productively consumed. This takes sometimes place in the modern chemical industry.

3. In some cases the creation of a form utility (or arrangement of matter) so seriously changes the given raw material that the process of transformation or manufacturing outgrows pure changing of quality. For instance, flax is turned into linen in such a radical way that it becomes entirely unrecognizable. In this case, a new product as a bearer of new utility is produced even in a physical sense; yet such a process of transformation is not close to the process of vegetation because there is no distinct quantitative result. For this reason, most economists consider such a process mere creation of new form utility. If one wants to be very exact, one should say that this case is rather intermediate because a certain quasi-surplus product in a technical sense comes into being.

4. In the field of production of immaterial wealth, there is a distinct creation of a net surplus product in the form of new objectively useful ideas. Every book is a stored up knowledge or an accumulation of ideas just like a machine is in a sense a bundle of natural resources and labor which were productively used. Spann says correctly that Aristotle's stored-up ideas fed for centuries a host of publishers and printers. The proposition that creation of new useful ideas, in particular of technical inventions, is a creation of a real surplus product is recognized by Alfred Marshall.

We have just finished discussing several cases where manufacturing and agriculture show a substantial resemblance because manufacturing sometimes produces a distinct quantitative effect or brings about a drastic change of the original matter. There are however, two cases when the productive process in a technical

sense assumes a form which is unfamiliar either to manufacturing or to agriculture, namely :

1. In agriculture, production can be sometimes identified with conservation. So man controls the process of vegetation (or metamorphosis) only while he maintains and protects changing matter. This is typical of cattle breeding and fruit growing.

2. In manufacturing, when man merely composes matter, he sometimes only forms the given raw material without affecting its original substance. For instance, iron ore can be recognised easily in any form which it might assume during the process of production. Even when an iron good is reduced to the status of scrap, the iron continues to be distinctly visible.

Surplus product is a vague but very important phenomenon. We have to distinguish between two essential cases :

1. Surplus product in the *narrower* sense. This kind of surplus product appears when a new objectively useful good as a new bearer of original (objective) utility is produced. For instance, a new amount of iron ore is extracted. It means that a dormant natural resource has been awakened and is available as a new surplus product in the technical or physical sense. This kind of production is typical of extraction, vegetation, (cattle breeding), chemical transformation, etc.

2. When a very small amount of iron ore is transformed into only one iron stove a form utility is created because the given ore can be used better in this new form. In other words, the given net surplus product in the narrower sense is simply adjusted to human wants. If, however, the amount of the given iron ore is so large that it is stored up (that is, remains sterile) and a manufacturer starts to transform it into many stoves, one can say that the surplus product is increasing but only in a *broader* or a purely economic sense. One must be cautious in this case because the stoves can be reduced to the original surplus product represented by the accumulated iron ore, yet we have to admit that in such a case, there is a conspicuous increase in the social product due to actualization of a semi-dormant natural resource, and this increase can have economic repercussions because it may exercise an influence on the price level. When social product increases in this broader sense, one should speak of creation of a new surplus product likewise in the *broader* sense which is a new bearer of exchange value because it has "vendibility" or "pecuniary serviceability" to use Veblen's terminology. In our example, the actualization of a large amount of iron ore produced quite a few articles as merchandise or bearers of exchange value so that at least some individual prices could be affected. It is evident that surplus product in the broader sense is an economic rather than

a technical phenomenon and concerns the problem of profitability more than the problem of technological productivity. According to John Commons, when we compare surplus product in the narrower sense with surplus product in the broader sense, we consider a problem of "engineering economy" versus a problem of "business economy."

Summarizing, we can say that production from a technical (that is, a narrower) viewpoint means actualization of matter (never its creation), in particular getting some additional material goods as bearers of original utility. Man produces in this sense when he extracts a new piece of iron ore or when he helps an apple tree to yield apples (since such a tree must be constantly supervised, fertilized and protected), or finally when he domesticates a wild animal. Even an increase in creative ideas which are usually patented means production of a net surplus product.

From a more economic view point, production means the arrangement of actualized matter. In other words, man readjusts the given matter so as to make it more useful. For instance, he transforms a log of wood into a table. In such a case, there is production in broader sense, even if it still has a certain technical character because no new matter is made available but only the original utility of the given matter is increased. In our example, form utility is produced. Should we use Aristotalian terminology, there is creation of an "accidental" and not of a "substantial" form so that there is production which stresses the man-made elements of the good. If the given manufactured table is brought to the market, a new merchandise appears. Thus each commodity offered by a capitalistic firm simultaneously bears original utility (pertaining to the given material), an additional bundle of man-made utilities, and exchange value. Not every surplus product of any kind however necessarily is a bearer of surplus value. An additional table can depreciate other tables, while losing a portion of its own exchange value.

With regard to material goods, one can agree with Cassel, that production in the broader sense means making a larger quantity of a certain *kind* of goods, while only the original is literally created. So there may be an original model of a particular type of automobile but this created model can be produced and reproduced on a large scale. And created model is still an arrangement of matter. Reproduction of an original is likewise typical of goods which contain some spiritual elements, so a picture created by Rembrandt has been reproduced as a series of identical copies. Only ideas are literally created and simultaneously produced as a distinct net surplus product. Production, in the narrower sense, sometimes yields a product which is not dependent in principle upon demand. For instance, an apple tree will bear fruit regardless of whether there is demand for apples

or not. Contrariwise, the production of any man-made merchandise necessarily depends upon effective demand for it.

Modern economic theory no longer confuses economic activity with productive activity although they normally coincide. In addition, it makes a clear distinction between physical technological productivity and pecuniary economic productivity, even if the latter concept is interpreted differently. In reality there are some cases when economic activity is not simultaneously technologically productive, namely:

1. A purely mental (or psychic) form of economic activity, like the development of a rational subjective scale of preferences is technically unproductive. In a sense the same is true of commerce, transportation and the last stage of manufacturing, such as packing.

2. Any creation of a net surplus product in the narrower sense is technically productive but if this activity is an end in itself, it does not represent economic action.

Technological productivity implies creation of a net surplus product in the narrower sense and thus represents in part a quantitative problem. Yet, it can appear in two different forms:

1. The capacity of producing a certain amount of material goods and services. In this case, the technological productivity of a given country indicates its productive potentiality, or its aggregate productive power. One can, of course, appraise such a potential productivity only approximately.

2. The actual measurable production of material goods and services. From the standpoint of the national economy as a whole, this kind of technological productivity fixes its social product and thus the actual plane of living. Some economists, like Othmar Spann, go further and maintain that potential or actual production of immaterial goods, like new sound ideas or services of a developed banking system, can be considered from the standpoint of technological productivity, if they come into consideration as certain quantities. Of course also, in this sense, a country can be prolific.

Economic theory has several different approaches to the concept of economic productivity, namely:

1. Mercantile

According to this approach, any action is economically productive if it creates surplus value, that is, is profitable or advantageously priced. The most typical representatives of this approach are: Adam Smith, Nassu Senior, A. Cournot, Robert Liefmann, Peter Struve, Paul Sweezy, and to a certain extent, John M. Keynes, John Commons, and Wesley Mitchell.

2. Utilitarian

This can be sub-divided as follows :

(a) *Predominant*: Advocated by F.B. Say, McCulloch, and by most of the contemporary economists, in particular by Alfred Marshall, Frank Knight, Richard Ely and Albert Meyers. All of these economists consider as economically productive any activity which awakens or increases the original utility of a good.

(b) *Genetic*: Advocated especially by Gustav Cassel and Othmar Spann. According to them productive activity in a purely economic sense is any activity which pertains to the entire preparation of goods for the satisfaction of human wants, that is, which helps to make the given good ripe for one of the stages of its economic curriculum. In the last analysis, both sub-approaches mean the same, only the starting point is different.

3. Idealistic

This can also be sub-divided:

(a) Any activity which awakens or materializes a generative (or productive) force. This standpoint is advocated by Spann, also by Baxa, and formerly by Adam Mueller and Frederick List.

(b) Any activity which is useful from the standpoint of the whole. Representatives are practically the same. In the latter case, the idealistic approach assumes rather a "holistic" nature.

Before we start to discuss the first approach to the concept of economic productivity, we have to prove that technological productivity and profitability are two colliding phenomena. Under normal capitalistic conditions, the increase in the surplus product in the broader sense symbolizes an increase in technological productivity. It should not trespass the *social limit of profitability*, which establishes the actual point of relative over-production. In the present highly dynamic capitalistic money exchange economy, however, this point is subject to constant revision or change. Still, Adam Smith, who advocated the rising phase of industrial capitalism, recognised that under normal capitalistic conditions, any increase in technological productivity, or in the quantity of commodities which are supposed to be marketable should not decrease "the aggregate amount of exchange values." In other words, in our terminology, Adam Smith wanted to say that when the entire net surplus product in the broader sense trespasses the actual social limit of profitability, the goods will depreciate and the whole price mechanism will be upset. This happens because the increase in the surplus product in the broader sense, that is, in the amount of the bearers of

exchange value, very often decreases the corresponding monetary surplus value (in a non-Marxian sense) and thus forces some producers to suffer a loss.

Until now, it is seldom realized even by economists, that under normal capitalists conditions, a strict correspondence between surplus product and surplus value must be observed. For instance, Wilford King declares :

The more goods are produced, the more spending power there is in the industry.

This contention is risky for several reasons, namely :

1. If the surplus product in the broader sense viewed from the standpoint of entire national economy increases to such an extent that exchange value seriously shrinks, that is, a good many going business concerns become unable to cover their total costs because of constantly dropping prices, the whole economic life will run into a serious crisis. Under normal conditions, a lower price level is beneficial only if the producers are able to lower their costs or to cheapen their product accordingly. In other words, the social limit of profitability will not be violated under normal conditions by an increase in the surplus product (or technological productivity), if this increase is followed by a simultaneous and sufficient decrease in the corresponding objectively normal costs. As soon as the given marginal and slightly super marginal producers begin to be eliminated *en-masse*, any further increase in technological productivity will mean a grave violation of the given social limit of profitability. Of course, this social limit is highly dynamic, yet one cannot change too quickly some technical and some institutional limitations. For instance, institutional rigidity of wages enforced by oligopolistic labor unions and abnormal taxation tend in our time to tighten the social limit of profitability, especially because the size of the "normal" price depends in a certain measure upon the given psychology of entrepreneurs. Sometimes entrepreneurs will quit operating the business sooner than, from a purely objective standpoint, they should. Consequently, in real life, the social limit of profitability is subject also to the changes in social psychology or rather mass mentality. In any case, the social limit of profitability is fragile and vital for the entire production process as long as profit remains the main motor of economic activity. One speaks sometimes of "profitless prosperity." It is doubtful that such a prosperity could be a lasting phenomenon, if we assume that the capitalistic socio-economic order is preserved.

2. Professor Wilford King and some other contemporary economists assume, just as many classical economists, that

increase in surplus product is necessarily accompanied by a simultaneous and equal increase in spending power which absorbs it. This standpoint is rather antiquated because our modern economy is largely represented by mechanized production which develops great technological productivity. The goods under normal conditions become more abundant and at the same time the costs of production are composed more and more of some items which do not create an immediate spending power, such as an excessive writing off of depreciation of mechanized equipment which remains temporarily immobilized, taxes, which likewise may represent provisionally immobilized capital disposal, etc. For this reason, the increase in surplus product or in production may reach the social limit of profitability sooner than before unless the above-mentioned tendency is counter-balanced by an injection of purchasing power, especially by means of dishoarding.

In addition, modern technological unemployment strengthens this tendency because it likewise implies a certain decrease in effective demand. It does not mean that we cannot have a higher level of production. It means only that we must be more cautious than ever because our present system of distribution cannot normally stand any major violation of the social limit of profitability since such a violation provokes a grave relative overproduction. In any case, the growing mechanization of production and the increasing share of financial institutions and public authorities in the costs of products, besides rigidity of quite a few cost items, require still greater attention to the actually possible limit of expansion which is set by the given and slightly mobile social limit of profitability. To this problem, we shall return in another context.

3. Technological productivity is checked by two social limits, namely, by the above-mentioned social limit of profitability and the *social limit of consumption*. The first limit is violated when slightly super marginal producers are eliminated by the decline in prices which accompanies an increase in technological productivity. Consequently, the social limit of profitability is of extreme importance for the capitalistic socio-economic order. On the other hand, the social limit of consumption is extremely important in a socialistic economy. This limit is violated when development of technological productivity menaces the consumption of a future generation, for example, through depletion of soil or of woods, or when one branch of the national economy, for example heavy industry, is over-developed to the detriment of present consumption.

Under capitalistic conditions the social limit of consumption is only a supplementary limit which usually will be neglected

unless the state enforces it. On the other hand, violation of this limit in Soviet Russia leads to an abnormal situation because the actual standard of living is practically divorced from the plane of living which should not be devoid of socialistic character. Such disequilibrium between the actual plane of living and the *norm* toward which it should gravitate cannot be a lasting phenomenon.

Economic productivity ultimately appears in two different forms.

1. In a broader sense. In this case, we mean any kind of productivity, including technological productivity.

2. In a narrower sense. In this case, we mean pecuniary or exchange value productivity, that is, profitability.

The first approach to the concept of economic productivity which pertains to the above-cited scheme of approaches is entirely based on the idea of profitability.

The main propositions of the mercantile approach to the concept of economic productivity are as follows :

1. The surplus product in the narrower sense, with the exception of mining and vegetative processes, is rare and irrelevant. On the other hand, surplus value (in a non-Marxian sense) is very important and appears when the given product is sold at a higher price than its costs. Even agriculture itself is productive from an economic standpoint only if someone is willing to pay a sufficient price for its products.

2. Under conditions of a modern money exchange economy, producers must be interested exclusively in the creation of exchange values. Their activity is unproductive unless it can be considered as a "money-making" pursuit.

3. Any increase in production of goods which upsets the price mechanism by violating the principle of profitability makes the national economy as a whole unproductive. This proposition, however, is not shared by every representative of the school.

4. Economically productive is profitable activity relating to the production of material goods and as with regard to services, can be considered really productive only if embodied in a "vendible" material good.

Criticism of the cited mercantile interpretation of economic productivity can be reduced to the following propositions :

1. This approach is very consistent inasmuch as it makes any identification of the physical technological productivity with pure economic productivity impossible. It goes too far in this direction, however, because it shows no interest in the problem of surplus product in the narrower sense, which should not be

neglected since any bearer of exchange value either represents or actualizes a surplus product of this kind.

2. This approach identifies economic productivity with profitability and thus rejects the concept of economic productivity in the broader sense. Such an assumption has both a strong and a weak side. Its weak point is that it disregards the objective utility of a good which is chiefly physical, in part a psychic phenomenon but hardly has any mercantile bias. This implies that the mercantile approach neglects the process of increasing original utility as 'ripening' of the good and explains only what happens in the market under capitalistic conditions because profitability itself is a historical category. The making of goods is almost entirely displaced by "money making."

This approach however also has a strong side. One cannot deny that from the standpoint of the normal capitalistic economy as a whole, economic productivity is closely linked with profitability no matter who gets the net revenue. The leading representatives of this approach maintain that when profitability is violated on a large scale, the welfare of the country decreases. For instance, Robert Liefmann says that when coffee production in Brazil is too abundant, part of it should be destroyed because the entire country, in a sense, lives on the export of that product. Should the price of coffee fall, the national welfare of Brazil would be seriously affected. For this reason, Liefmann defines a rational and forcible depletion of a considerable part of the coffee crop under such conditions as "profitable destruction" and thus a productive activity in the economic sense because it serves pecuniary (or value) productivity.

Not only destruction could come into consideration, but also a certain "profitable and thus productive misapplication" of the excessive produce. For instance, Argentina recently used wheat as a fuel for locomotives. In the United States, the "New Deal" applied "profitable prevention" of production by removing a part of the potential cotton crop by means of rewards granted to those farmers who cultivated a smaller area. On the other hand, in the ancient world, the government often imported grain and distributed it gratis among the poor people who formerly had to purchase it from expensive home producers. This action, however, did not imply a profitable destruction in Liefmann's sense but on the contrary was economically unproductive because it destroyed or at least seriously damaged a remunerative branch of the city economy. Any representative of the mercantile approach maintains that one has to make a clear distinction between a destructive action which promotes prosperity of the nation and an altruistic action which, may prove to be harmful to a large portion of the population.

What is there to be said about the concept of profitable and thus "productive" destruction? We cannot say much against it as long as the world economy represents a loose system of national economies and as long as some of them like Brazil, Guatemala, Egypt, etc., are largely dependent upon the export of a single crop. In some cases, the situation is more complex so when the United States virtually destroys a portion of its cotton crop, by means of profitable prevention, this might be economically productive from the standpoint of the southern states, but harmful from the standpoint of the whole nation because the entire country does not depend upon cotton exports. Profitable destruction and misapplication may prevent the given capitalistic country from violating the social limit of profitability. On the other hand, "profitable prevention" of production may induce the country to abstain from violating the social limit of consumption at least with regard to a part of its population (*e.g.*, soil is not exhausted etc.). Yet, the policy of Henry Wallace safe-guarded the social limit of profitability and thus was in a sense a social but in no way a socialist measure. In some cases, such as the production of coffee and oranges, one can use only profitable destruction but not profitable prevention because in the latter case, one would have to damage the tree. Coffee, for instance, cannot be adjusted to demand literally because its product depends upon the process of metamorphosis. If the state subsidizes the farmers and thus enables them to decrease the effective supply of their produce since a part of it will be stored up, there will be a certain *profitable immobilization* which will have a productive character according to the mercantile approach.

The relationship between individual and even group profitability and social welfare is more complicated than is assumed by advocates of the mercantile school. Let us take cognizance of the scheme of propositions pertaining to this problem :

(a) Quite frequently under capitalistic conditions individual or group-profitability is raised to the detriment of the social welfare. Such a case occurs when technological productivity is decreased before the social limit of profitability is reached, for example under a monopoly or an oligopoly. This case is negative.

(b) Sometimes individual profitability and social welfare are in a "natural" equilibrium. In such a case, production is spontaneously stopped as soon as the social limit of profitability is attained. We already know that this limit is reached when there is an over-development of technological productivity and the price level falls, so that the actual marginal and slightly super marginal producers begin to be eliminated. This case is congenial to pure competition.

(c) Individual or group profitability sometimes can artificially coincide with social welfare. If this is the case, a portion of social product is usually destroyed or misapplied or prevented from being produced. Here equilibrium will have a rather institutional nature.

3. The mercantile approach frequently, if not always, maintains that profitable activity is productive only if it is directed toward production of vendible material goods or its result is embodied by such a material good. This assumption is not logical because the services of a painter or of a composer can be very profitable. Besides, for instance, the services of a physician belong virtually to the realm of immaterial goods but ultimately are directed toward matter (the human body). It is very difficult to draw a strict line of demarcation in a good many cases of this kind. Some economists, such as the Russian economist W. Zhelesnoff go so far in their endeavour to uphold the classical standpoint that they do not hesitate to contend that a musician is remunerated solely for the sensually perceptible sounds. They cannot, however, explain why in such a case a famous musician will get a larger fee than a less noted entertainer.

The second or utilitarian approach to the concept of economic productivity especially in its first version is predominant in economic theory today. For instance, Marshall says that since man can produce only utilities and cannot create matter itself, any activity is economically productive which adjusts matter to human wants by making it useful or provides necessary enjoyment. In the latter case, he means any useful service which is really wanted and remunerated. The same idea is clearly expressed by Richard Ely who maintains that any activity which increases original utility is productive and since man is willing to pay only for what he wants, it implies that every service which is remunerated should be classed as productive. However, Ely's standpoint is not strictly mercantile or pragmatic but rather utilitarian because he does not mean that only activity which is profitable is really productive but rather that any action which is productive is useful and thus is profitable.

The mistake made by Ely lies in another sphere, namely, he overlooks the surplus product in the narrower sense. Production does not mean only increasing the original objective utility, as some utilitarian economists presumably assume, but also procurement of new goods which come into being as new bearers of original utility.

Any fraction of the utilitarian school is strongly influenced by Aristotle because every new good bearing original utility develops as harnessed matter and undergoes a long process of transformation which raises its capacity of being useful in the

satisfaction of human wants. Consequently, the idea of a hierarchy of stages of production is inherent in the utilitarian approach and necessarily leads to the concept of an economic curriculum of the good. It is evident that the utilitarian approach has to distinguish between technical productivity and a pure economic productivity, and to admit that the creation of a surplus product in the narrower sense precedes. Let us consider a typical economic curriculum of an economic good conceived as a complex process of production.

Such a curriculum covers different stages of production in the broader sense. Production in the narrower sense represents its first stage. On this first stage, the respective natural resource is collected or nature is forced to yield a surplus product in the narrower sense. In the first case, one has to do with mining or collecting fruits, or hunting; in the second case, with the process of vegetation, such as agriculture, forestation and cattle breeding. In all of these cases, a new good as a bearer of original or fundamental or elementary utility appears because one cannot reduce it to another still more original matter. So, for instance, one cannot say that grain could be traced to the definite sun-rays or to the definite ingredients of the given soil. It would be still more difficult to trace the origin of extracted pieces of iron ore. Under such conditions, man simply awakens, actualizes and protects matter. He acts here like a peculiar generator and catalyzing agent. Even if the man only maintains and protects the given developing matter, he should not be compared with the boy who clings to a street car (as Schumpeter said at one time) because a producing man must always remain at least semi-active when he controls the process of metamorphosis.

If a raw material, for example, a piece of iron ore treated as a bearer of original utility is shipped to a factory, space utility is produced. In this way we come to the second stage of the production of a good, namely, the respective raw material is transformed through manufacturing. This is a long and complex process composed of a good many successive stages. The meaning of this process is the production of a series of man-made form utilities. In this case, the Aristotelian theory of production becomes especially clear. Before the given raw material matures as a good of final consumption, it normally assumes different forms as a semi-finished product. The respective finished product (or the given bearer of the increased original utility) now represents a bundle of man-made utilities and is supposed to be ripe for final consumption. Since it is assumed that it is dressed in a form which is congenial to the given effective demand, it is conveyed to a wholesale dealer.

This movement creates once more space utility. The wholesaler's activity can be thrice productive, namely :

(a) If he shifts the commodity to a branch office in another town, he produces a space utility.

(b) If he stores it, he creates a time utility.

(c) If he orders the good in advance and finances its production in the narrower sense, he acts as a sound speculator and thus creates a utility in time. This is the reason, why a sound credit-transaction is implicitly productive. One can say that in the above mentioned case, the wholesale dealer carries out distinct "arbitrage through time."

If the respective finished good is not shipped by the factory to a wholesale dealer directly but is handled on the spot by a broker who acts as a middleman, ownership utility or perhaps better a "mediation utility" is produced. This kind of productive activity is very typical of a real estate dealer who adds such an utility to houses by transferring ownership to those who develop effective demand for them. This implies, however, that the given real estate dealer must render a real service, but should not be engaged in "pure" or unsound speculation.

When the respective finished good is acquired by a retailer a new time utility is created because any retailer stores up the acquired goods for a while. In addition, every retailer produces "size utility" (that is, a utility related to form utility) because he adjusts the quantity of divisible goods to consumer's desires. Some retailers, like a chain-store, create place or location utility as well as space or distance utility. One can say that any retailer who has a store in the shopping district produces a distinct location utility because he offers his merchandise in the most physically or socially convenient place.

If the finished good in question gets distinction at one stage of production in the broader sense and emerges as a "brand" a certain quality or prestige utility is added to it. This kind of utility is created either by an efficient entrepreneur himself or by a sound professional advertiser. We must distinguish between a sound and unsound advertiser in the same way as we would in respect to a speculator. We disregard unsound advertising which we consider as cheating. In Marshall's terminology, constructive or informative advertising is used for introducing a new product while combative or competitive advertising attempts to supplant competitors. Yet, competitive advertising sometimes simply means that the given producer is enabled to maintain his position.

When the given finished good is insured or its transportation is secured by police or its market value is guaranteed by a bank, a certain security utility is added to it. In general, we can agree

with Cassel, that production in the broader sense means that the good is presented in the form in which it is wanted at the place it is wanted and at the time when it is wanted.

The scheme of production in narrower and in broader sense which we have developed according to the regular utilitarian approach is based on Aristotle's theory of production. It improves this theory, however, because not only the process of extracting and forming matter is considered as productive, but any activity which increases the original objective utility of the given surplus product in the narrower sense and thus adjusts it better to the actual human wants is defined as productive. In other words, such economic activities as transportation, commerce, insurance, sound speculation, sound advertising, etc. become, according to this scheme economically productive in no less degree than manufacturing or agriculture. Thus, our main utilitarian scheme of production considers the evolution of two phenomena:

1. *Objective utility* which develops gradually from the second stage of the good's curriculum.

2. *Exchange value* which gradually increases (at least in a normal case) also from the second stage, although in principle, there can be production in broader sense that is devoid of any exchange value problem.

This latter phenomenon is an object of cost accounting. The second evolutionary process reflects the first one.

Summarizing, we can say that the process of production appears from a consistent utilitarian standpoint in the following three forms which confirm our previous conclusions made with regard to the theory of production :

1. Production in the narrower sense which is a technical process and means either procurement of a surplus product in the narrower sense, for example, mining, or increasing of original objective utility in a *semi-active way*, for example, enabling a young domesticated animal to mature or lumber to cure, or wine to age. In the last two cases there is a "plastic" production in Stackelberg's terminology because the respective process can be shortened, in a sense, at will.

2. Production in the broader sense which is more economic than technical in its essence. Yet, this kind of production is carried out in different ways. It surpasses in a good many cases, a purely technical arrangement of matter when, for instance, a product is stored or transported. On the whole, production in the broader sense, means increasing original objective utility *in an active way*.

3. Production in a strictly economic sense which means transformation of a good bearing original utility plus some man-made utilities into a bearer of exchange value even though the expected surplus value may be only imaginary or negative. In other words, production of this kind creates a distinct surplus product in the broader sense. Any bearer of increased original utility can appear and disappear as a surplus product of mercantile character (that is, when it functions as merchandise) many times during its personal history.

Many utilitarian economists go even further than our main scheme and consider as productive such an activity which does not directly increase the original utility (or usefulness) of a good but makes this increase possible. To this category belong quite a few immaterial productive services. By such services, we understand the following phenomena :

1. Services generating non-human power which is necessary for extracting or forming matter. The Classical economists recognized that such services can be productive but stressed the fact that their bearers must be distinctly perceptible, for example, horse or water. At present we may consider as productive an electrical power station, for example, which provides energy in a less tangible form and carries out its task in a more "enigmatic" way from the standpoint of a layman. Most economists also consider consumption of food as productive when it generates energy within the worker, provided that this consumption is arranged and supervised by the employer. So, for instance, a factory-cafeteria used exclusively by the workers of the given factory is productive, but not in the same sense as any other cafeteria. Also, a restaurant operated by a college is in a sense a generator of productive energy since the students are reproducers of immaterial wealth.

2. Any personal service rendered to a producer in a broader sense is considered productive by every utilitarian economist because it saves the producer's effort in terms of time. Thus, any servant is productive who drives a car, shines shoes, cooks a meal, waits on tables, etc., provided that he is employed by a producer. Most modern economists go even further and maintain correctly that any service which is wanted and paid for is productive if it creates a certain objective utility. Thus, they consider productive any servant employed by a rentier, that is, by an idle rich man who takes no direct part in the process of production in any sense. Indirectly, however, any rentier is himself a certain producer because he furnishes investing power to someone and gets remuneration for this service. Ultimately he participates in the national income by virtue of his ownership. Even the classical economists admit that direct services are

productive provided that they are embodied in material goods. For example, a cook was considered productive but a butler was believed to be an unproductive servant. This standpoint is untenable and was duly criticised by Marshall. He gives the following example : According to the Classical economists, a singer in an opera is unproductive; the printer of tickets of admission is productive; while the usher who shows people to their places is unproductive unless he happens to sell programs, in which case he is elevated to a productive rank. In reality, every individual who renders a useful, and thus remunerated service, participates at least in production in the broader sense.

This leads us to the conclusion that a certain kind of productive activity which is not taken into account by our main scheme pertaining to the production of material goods and to the services which are somehow connected with such a production, is represented by some direct services relating to the production of immaterial wealth. Even economists who, in principle, neglect immaterial goods agree that some distinctly immaterial services are productive, provided that they are connected with the production of material goods. For instance, an inventor who introduces a new technical device, or a college professor who teaches technology or economics (especially business administration and marketing) is considered productive while a priest and a scholar teaching philosophy or sociology are unproductive. Obviously this standpoint is too narrow.

We have already seen that in the field of immaterial wealth, like knowledge, sense of beauty or aestheticism, sense of harmony, or music, sense of justice or ethics, the production of a net surplus product in the narrower sense appears in the form of creative ideas. In general, however, creative ideas, conceived as a surplus product, can appear in both forms of such a product; (1) inventions appear as a surplus product in the narrower sense, and (2) innovations as a surplus product in the broader sense.

Sometimes a creative idea which can be purely socio-philosophical in its essence exercises such a great influence upon the socio-economic mentality that it emerges as an aggressive creative myth and even becomes condensed as a "total idea" which gives birth to a complex totalitarian culture. Today we witness the power of such immaterial influences. Yet even their existence was not realized before some leading social philosophers of our time, namely, Bergson, Sorel, Pareto, Karl Mannheim, Max Scheler, paid attention to this phenomenon, although each above-mentioned scholar was in a sense influenced by Hegel. Thus a new branch of sociology namely "sociology of volition" begins to develop and is a serious blow to the historical materialism of Marx because it proves that sometimes an aggressive

ideology determines the development of the material productive forces and not vice versa.

At any rate, an economist has to recognize that any direct service, which is useful, not only in the sense that it is wanted and remunerated, but also because it contributes to the production of immaterial wealth is so-to-speak implicitly productive. A priest and a professor of philosophy are obviously productive since they contribute to the national real income by reproducing and increasing immaterial goods bearing a "spiritual service utility." Should we accept this proposition, we would join a very distinguished company, composed of such modern influential economists as Marshall, Pigou, Sombart, Spann, Bulgakov, to name but a few.

We must still consider some important controversial problems which pertain to the utilitarian approach to the concept of economic productivity, namely :

1. Most economists say that a certain kind of utility is "created," when one of the above-cited stages of the process of production comes into being. Yet it would be better to say that it is "produced" and in most cases, that it is "added," because virtually only a model, object of art or a system of creative ideas, for instance, a scholarly book as stored inventive knowledge, can be literally created so that a genuine creation of form utility is a rather rare case. We know already that usually in real life, there is no creation of an individual good but production of a new commodity of the same kind. Thus, an original painting is created and cannot be literally reproduced, but it is quite possible to produce many copies of this painting. Each copy will be an identical good but will never be able to command the high price which may be paid for an original famous painting. In our present work we shall, however, use the common terminology by saying that utility is "created."

2. When we maintain that commerce produces time utility, we want to say that it stores the given good until it is wanted or commands an effective demand. In other words, commerce carries out one of the possible kinds of saving, since saving is a rather manifold phenomenon, as we shall see in another context.

3. Albert Meyers maintains that a florist adds form utility to a seed when he helps it grow into a flower. We cannot accept this statement. A cultivator of flowers usually only assists the process of vegetation or metamorphosis and helps nature create a new surplus product in the narrower sense but does not literally produce a new form utility. Only in very rare cases does a florist as cultivator, produce form utility. For example, pink hydrangeas can be changed into blue by adding iron salts to the soil. Here, in a sense, forms but not species is created.

In principle horticulture is a section of agriculture. On the other hand, a dealer in flowers produces form utility when he assembles the flowers in a bouquet. If this action is carried out artistically, one can say that the florist decorator has created a spiritual services utility.

The question arises : If so many activities are productive, (of course, not from a technical, but an economic viewpoint) is there any activity which would not be productive ? Our answer is in the affirmative, but the problem is complex. Let us develop the scheme of propositions pertaining to unproductive activity :

1. Any economic activity which does not create objective utility is unproductive. In this category belongs pure (unsound) speculation, or direct profiting by a positive price margin. For instance, an individual promises to deliver at a definite time in the future and at a definite place some securities which he does not possess and which the respective buyer does not intend to acquire in reality. In such a case, the whole transaction on the stock exchange practically is reduced to the realization of profit as wind-fall gain derived from a mere price margin. This transaction is economic because it is not an end in itself and could be performed by a middleman or a secretary. Yet, it is unproductive since it does not create objective utility. This transaction is a certain kind of gambling which could be compared to a bookmaker's activity. The fact that sometimes such activity brings disproportionate gain is irrelevant. For instance, a pure monopolist often gains disproportionately and risks less than a pure speculator; yet his activity is productive because he usually produces several man-made utilities, such as form utility, prestige utility, time utility, space utility, and sometimes even a surplus product in the narrower sense, for example, when he represents a certain branch of an extractive industry. In any case, any monopolist or any oligopolist is a regular entrepreneur. Practically, a monopoly is not a problem of production but of the market-form, that is, of the socio-economic frame. There are still some other activities which bring a disproportionate gain but are nevertheless productive, such as the business transactions of a regular real estate dealer, of a stock broker, of a contractor and even of a movie star.

2. Any activity is unproductive which creates a distinct objective disutility. This case is more controversial because it does not have a purely utilitarian, but in part an ethical bias. For instance, a professional gambling institution carries out economic activity since its activity is wanted by some people and for this reason is remunerated. More than that, this activity creates place utility, especially if it is forbidden. Yet, a gambling institution is unproductive because it satisfies a want which in

principle is abnormal and its activity represents a disutility from the standpoint of the nation. Also, the economic activity of a minor gangster cannot be considered as productive for the same reason. If such an activity is carried out on a large scale, it may do a great deal of harm and upset the entire price system. On the other hand, the activity of a pure monopolist may create utilities of a comparatively low degree but they will seldom appear as a distinct objective disutility. If this should happen, the activity of a monopolist would be likewise unproductive. Since this proposition is partly ethical, it is not universally shared. Some economists insist that production of cocaine, poison, and hideous paintings, is productive activity. So Davenport declares that economic productivity is in no case a matter of piety or of merit or of social deservings. In our opinion, however, production of cocaine and poison is an economic activity but is productive only if it serves a useful purpose such as medical treatment. In any case, the criterion should be whether such an action bears an objective disutility, that is, is a disorganizing action, or not. Such a proposition is not entirely of an ethical nature.

3. Any nonsensical activity is unproductive. For instance, the burying and digging out of bottles filled with paper money conceived as a public work is neither economic nor productive, although Keynes seems to think that it is. On the other hand, Keynes is right in regard to the fact that construction of pyramids and gold mining are productive because in the first case one creates a new durable good which ultimately can increase tourist trade; in the second case, there is extraction of a material which can serve an industrial and monetary purpose simultaneously. Hoarding of gold by a country represents an economic activity because it saves expenditure. In the past, England did this for many foreign countries, as a remunerated agent. In addition, as long as gold is the most liquid form of purchasing power from the standpoint of world economy, the hoarding of gold on behalf of a country is productive in a sense because the usefulness of the gold reserves can increase, even with the mere passage of time, as is especially conspicuous in the case of a major war.

4. In contradistinction to the mercantile approach, Albert Meyers says correctly that, when we maintain an activity is productive, we do not mean that it is necessarily remunerated. So a scholar who writes a book or a composer who creates a musical composition is productive even if his work does not have a buyer. Very often after his death, his work which bears a considerable "utility in spirit" acquires a great market value and proves to be profitable. On the other hand, a consistent representative of the mercantile approach will have to admit that according to his standpoint pure speculation and the activity of a

minor gangster are definitely productive since they are very lucrative.

Cassel, who is one of the leading representatives of the *genetic* version of the utilitarian approach to the concept of economic productivity, emphasizes that production is not exclusively a manipulation of materials which pertains chiefly to the process of production in the technical sense but covers the entire complex and systematic *preparation* of material goods for the final consumption. This proposition is correct but too narrow because it openly neglects the sphere of immaterial goods in which even the surplus product in the narrower sense is a frequent phenomenon. Besides, Cassel disregards the creation of some peculiar utilities, like quality (prestige) or ownership utilities.

Spann's analagous attempt is much clearer since he openly defines production as the process of making the good "ripe" for the various phases of its economic curriculum. He offers practically the same scale of successive stages on which objective utility grows, because the good in his scheme likewise walks up a long road before it reaches its final form, that is, before it becomes mature for final consumption. Sometimes this road leads to a "*secondary entelechy*." For instance, iron ore is transformed into an iron stove which is acquired by a consumer who needs it for his kitchen. Several years later he resells this iron stove as junk to a scrap dealer who reshapes the iron into a table. The process of secondary entelechy is typical of our moden economy which uses a large variety of metals, but also was familiar to some ancient oriental scholars who saw in it an analogy to the transplanting of souls.

Let us now see how Spann develops his scheme of the ripening (or maturing) of goods. This scheme is composed of the following stages :

1. The matter gets "work maturity." Thus, when a natural resource is awakened, that is, is extracted or collected, it becomes ripe for shipment and processing. In other words, it is "mature" for being worked upon.

2. A good usually gets "market maturity," in a limited way. This means that the good ripens for sale as a semi-finished or a finished commodity. In such a case, it is conveyed to a wholesale dealer or to a factory.

3. When the good is acquired by a middleman, including a retailer in a broader sense, it gets "place-time maturity" and simultaneously its final market maturity. In other words, it becomes ripe enough to be sold to a final consumer. Any good which is produced in the household, for example, food produced

by a farmer for his own consumption, never has market maturity although it may possess work-place-time maturities.

A good gets "enjoyment maturity" when it reaches the consumer in its final form such as an iron stove which is installed in the home, or food which is prepared by the consumer in his kitchen. Goods which are used only for productive consumption, such as coal burnt by a factory, never attain genuine enjoyment maturity unless we identify final and productive consumption. In this case, the given good will be "enjoyed" by the manufacturer as a peculiar consumer. On the other hand, a raw material like flax clearly attains enjoyment maturity, for example, when it is placed on the bed in the form of a pillow case.

There are still two other "maturities" which are not included in Spann's main production schemes, namely :

(a) *Fore-maturity*, which is provided by an inventor or an instructor and thus precedes the appearance of a net surplus product; yet it may influence the product's exchange value. It is impossible to extract or process a natural resource unless a technical device is invented or previous knowledge (as immaterial wealth) is transmitted. Even a skill must be learned. In this case, the immaterial wealth of a country can be inherited by the younger generation. A young man who does not want to study or to learn a skill refuses to safeguard a portion of the national immaterial wealth. He does not differ very much from a man who directly destroys a portion of material wealth (real capital) by burning a factory built by his fore-fathers. Knowledge must be stored and actualized just like machinery which perishes in the long run unless it is protected and operated. Even in a stationary economy, knowledge must be reproduced like real capital. Spann maintains that a laboratory is an "industry of fore-maturity." We prefer to say that it is an institution which prepares the process of production by reproducing and even increasing the immaterial wealth of the nation.

(b) *Community maturity*, which is bestowed on the good by the state, since the state advocates, organizes and protects a certain socio-economic order. Here the state is conceived as an organizing productive force. Also, anything else that contributes to the given socio-economic organization, like a market form or a central bank is a provider of community maturity. The theory of community maturity was developed, not only by Spann but also by the Russian economist, P. Georgievsky, who substituted society for the state as a provider of community maturity. Spann says that any economic activity of a non-isolated individual, as far as it is not a purely psychic phenomenon, becomes possible due to the institutions which function as bearers

of community maturity. One can go to the market as a buyer or seller only because there is such an institution. Remember especially in this regard the "market peace" in the Middle Ages. Spann does not mean that every action of the state is economically productive. For this reason, he makes a distinction between the state as a system of ends and as a system of means. Only in the latter case when the state is the organizer and protector of the given socio-economic order, should it be considered as a real productive force, that is, as a provider of community maturity. The state appears in this sense when it organizes and protects a sound money circulation, signs commercial treaties, enforces social peace, etc. Also, an entrepreneur is a provider of community maturity although not every action of his is positive from the standpoint of the national economy as a whole. It will be negative if he stops increasing output before the social limit of profitability is reached. Community maturity increases the objective utility of the given good and influences its exchange value usually through taxation.

The last two kinds of good's maturities, namely fore-maturity and community maturity, link the genetic version of the utilitarian approach to the concept of economy productivity with the genuine idealistic approach, which emphasizes that any action which awakens or materializes a generative force is economically productive. Practically, any sphere of culture such as science or fine arts which provides fore-maturity as an active incentive for economic life, and any institution such as the state or entrepreneurship which purveys community maturity as an organizing factor, is acting as a productive or generative force. Consequently, every action which contributes to their development or is performed by them is considered by the idealistic approach as an economically productive activity. Fine Arts come into consideration here in particular in connection with advertising and architecture.

The theory of productive forces as it was developed by Adam Mueller, List, Spann and to a lesser extent by Pigou and Haberler, can be reduced to the following propositions :

1. The prosperity of a nation does not depend upon the stock of accumulated material goods but on the capacity of reproducing them if they are lost or on the ability to increase production in case of necessity. During the Second World War Germany which initially had more airplanes was defeated by the United States which was able to develop quickly a greater production of aircraft. Not the actual, but the potential state of production shows the real economic power of the given nation. This fact is emphasized by Gottfried Haberler who recommends that we observe the change in social opportunity costs when the

given country increases its production under duress. It is a bad omen if these costs rise because it means that the given national economy is potentially poor.

2. The material wealth of a country is not determined by the size of its wealth but rather by the use that is made of it. In other words, every present real capital good must be shifted to the use in which it will be most useful in a lasting way because real capital should contribute to the development of the productive forces of the given country but not to its temporary welfare,

3. It is wrong not to consider as a portion of national assets the ideas of a leading statesman who helps awaken quite a few slumbering resources or the lectures of a scholar who stimulates the inventive research work of the nation. In particular, Adam Mueller insists that the state conceived as a productive force is a spiritual product of officials who through their productive activity constantly recreate it. As criticism we can say that in real life, one can appraise these ideas and services as a portion of national assets only if they are inventive and remunerative, that is, if they yield to the country a revenue which can be capitalized. For instance, the sermons of Savonarola in the fifteenth century attracted pilgrims which improved the balance of payments of Florence. Professor Pigou says that immaterial "capital" of ideas is the co-determinant of the income getting power of the nation. This is true of the Vatican which even now attracts wealth to Italy.

4. Institutions produce more wealth than labor applied to the natural resources. Here one means again that institutions function as providers of community maturity.

This scheme shows that the idealistic approach considers all potentialities and incentives which act like productive forces. Consequently, this approach is extremely dynamic, in its nature,

One should realize that there are four original productive forces which supplement the primary factors of production and thus can be considered as productive agents "*sui generis*." We mean in this case knowledge, including skill, entrepreneurship (conceived as managerial capacity), waiting, and patience or endurance. All of these are primary services. The first two in a large measure are inborn in the sense that they depend upon the natural capacities of the given person. The three primary factors of production, natural resources, labor and real capital, are always present and are continuously active if one considers them from the standpoint of a modern manufacturing business concern. On the other hand, entrepreneurship might be absent since it can be replaced eventually by blue prints, while waiting can be represented by the sub-conscious inertia of a capitalist.

Only knowledge and patience must always be present and continuously active.

The second version of the idealistic approach to the concept of economic productivity, which maintains that any activity is economically productive if it serves the welfare of the *whole*, is so normative in its essence that it practically contributes to the teleological interpretation of economic activity. In particular, Spann emphasizes that economic activity is productive only if its result is lasting, while Pigou and J. Scitovsky maintain that the private net product should be in equilibrium with the social net product if the welfare of the community is to be achieved. Practically, this "holistic" approach is based on the assumption that economic action is economically productive only if it is functionally useful and if its goal and result are normal and lasting in principle. This explains well why a war economy is unproductive. Of course, war can be very advantageous from a purely material standpoint, especially if the victor loots a conquered nation. Yet we disregard this case because such acquisitive behaviour is unilateral, that is, it is not economic, and may create disutility from the standpoint of mankind if, for instance, it disorganizes world economy. Let us now see why a war economy is unproductive in principle even if its managers try to observe the principle of cost saving. The reasons for its unproductive nature can be summed up as follows :

1. The goal (or end) which is substituted for the usual primary end of the national economy and provokes a certain boom is shortlived. As soon as the war ends, the national economy must be reconverted which means a contraction of the over-expanded productive forces that were shifted toward an artificial goal. Some innovations introduced during the war can eventually become obsolete.

2. The result is unstable and unhealthy, even if war temporarily stimulates employment, because the whole economic life is geared to the detriment of the future and thus violates, in the long run, the social limit of consumption. Under such conditions, there always is a certain dissipation of national assets because the factors of production are largely misplaced and overburdened. The natural resources are exhausted sometimes since the produce of the mining industry is largely a function of price. Even sub-marginal ores are frequently depleted.

3. War often develops technological productivity regardless of the social limit of profitability and restricts final individual consumption in favor of an excessive armament production. Thus, it violates the social limit of consumption again. Gordon Hayes says that war is "orgy of collective consumption" at the expense of the individual consumer.

Also under normal capitalistic conditions, when there is no war, the principle of saving may be violated on a large scale. Here we consider saving, not in connection with investment, but as a mere provision for the future. According to Pigou, in such a case, the private net product is below the social net product; yet the case is negative because the development of production takes place at the expense of the future. Pigou and Sidgwick emphasize that under normal capitalistic conditions, there is a constant disequilibrium between private and social net products. To prove this contention, Pigou gives the following examples:

1. Social net product exceeds private net product. This is a negative case. There is such a development if, for instance, the contract between a landlord and tenant fails to mention the condition of the land at the end of the lease. Toward the end of the lease the tenant will try to get back as much of his invested capital as possible. For this reason, he will take so much from the land that for some years in the future the yield will be reduced. In this case, technological productivity is over-developed to the detriment of the future and violates the social limit of consumption. This hurts the private interests of the landlord at the same time. A serious exhaustion of the land usually means, in the longer run, a greater decrease in the social net product, than the temporary increase of that product preceding the exhaustion.

2. The social net product is below the private net product. For instance, someone constructs a building in a crowded city centre, which by contracting the air space and the playground of the neighborhood, tends to impair the health and even the efficiency of the people. A new building under such conditions decreases to that extent the given national assets. Rather it causes the appearance of high "social costs," should we use the terminology of Hobson.

3. In some cases, the excess of social net product over the private net product represents a positive phenomenon. This is the case when a monopolist is institutionally prevented from getting a hire profit by stopping production before the social limit of profitability is reached.

As mentioned before, Aristotle was the first to introduce the concept of the "period of production." He suggested following the various stages of the goods transformation throughout the process of production which he conceived as the creation of a series of successive form utilities. The modern utilitarian interpretation of economic productivity is based on this concept. The only difference is that in the latter case, production is taken in a very broad sense because it embraces the entire ripening of

the good. Yet the question whether one should use the concept of the "period of production," even with regard to the process of manufacturing remains controversial until now. Some economists, like Cassel and Knight, are reluctant to advocate this concept. Some, on the contrary, as von Wieser and formerly Hayek, make an extensive use of this concept. Of course, Cassel does not entirely neglect the concept of the period of production but applies it only in a very abstract way when he develops the economic curriculum of a good in conformity with the utilitarian approach. The arguments which are supposed to prove the existence of a period of production are as follows :

1. The origin of a material good is not irrelevant because every product is related to any other product that has some "*stem-element*" in common with it. Consequently, economic theory must observe the productive stems and must admit the presence of a distinct genealogy in the field of production.

2. The shortening or lengthening of the period of production can have very serious repercussions at times, especially when specific factors of production are involved. In addition, the period of time covered by any given process of production and commonly called "the period of gestation" has bearing on business fluctuations.

3. Under modern capitalistic conditions, there is an interior accounting based on calculated or "instrumental" prices which follows the good's ascent to the higher and higher stages of its transformation until it has reached its final form.

There are several reasons why the concept of the period of production is rejected by some modern economists. These reasons can be reduced to the following propositions :

1. Although every material good has a history, it is impossible to fix a point in time at which the production of this good was started.

2. Economic activity, as Commons says, is essentially directed to the future and is logically indifferent to the past. Only when the monuments of the past come into consideration, is valuation influenced by the personal history of the given material good.

3. In actual life, production always is a continuous process which has no beginning or end, if one considers it from the standpoint of the whole. In the full stream of this flow, there will be found at any one moment, articles in all their different stages of production.

These are two different and antagonistic trains of ideas. Yet, both of them are correct because, on the one hand, in real life the process of production is a continuous flow.

On the other hand, the period of production is a very realistic phenomenon in the case of a large business concern which unites several consecutive stages of production and treats each stage as a separate enterprise which has its own cost accounting. The same is true when the given firm possesses a considerable amount of the specific factors of production pertaining to different stages. It certainly is correct that it is almost impossible and virtually unnecessary to give in practical life, a historical account of the production of separate goods. Every material good is a product originated by a group of co-operating productive agents and each factor of production ought to be traced back to some primary original factors, in particular to natural resources which are often imported from distant backward countries where they probably will have an obscure origin. Also it certainly is true that only the "personal history" of some old buildings or the origin of an object of art, for instance, of an ancient painting, usually greatly influences the valuation of the respective good and thus increases its exchange value. In such cases, there appears a peculiar kind of commerce dealing in antiques. This branch of industry is very important in some countries, such as Italy, Syria, and Egypt. Every antiquarian is productive in the broader sense because he learns the history of the respective, not quite material good like a statue or a painting, or of a still less material good, like the stored creative ideas of a great scholar of the past in the material form of a book. In all such cases he produces time utility, that is, stores the good, space utility since the article is usually brought from a distant place where it sometimes is excavated and a certain "spiritual service utility" because the given good stimulates a sense of beauty and traditions. In addition, a better antiquarian creates form utility when he restores an ancient damaged good, usually with regard to the respective style and age, or calls into being a special branch of manufacturing (in broader sense), namely the business of restorers who sometimes act as real artists.

One has to agree with Cassel that the process of production is continuous. Yet, one cannot draw such a conclusion without reservations because in agriculture the period of production is distinct since there production is seasonal and occurs once every year. The picture may change only if the entire world economy is taken into consideration. For instance, in the case of Germany, her home crop of wheat was distributed irregularly according to the given season. Yet, her wheat supply was continuous because she imported a great deal of wheat from Argentina where the seasons are in reverse. Also, when a large business concern is composed of many consecutive stages of production, such as spinning, weaving, dying; each stage treats another one as a separate unit and sometimes even charges a rate of interest

on the books when a semi-finished good is passed over to the nearest lower stage. For this reason, the concept of the period of production is a very useful instrumental device which catches up the flow at different stages of transformation and forms a certain (even if short-lived) personal history of the given good. In many cases such a device is not inferior to an ordinary balance sheet which, in the last analysis, has a similar task to hold for a moment the dynamic life of the given firm. Besides it is evident that Knut Wicksell and Frederick Hayek are right when they say that there is a frequent and very important movement of the non-specific factors of production within a factory as a result of a roughly periodic change in the structure of production brought about by increasing or decreasing investment in its earlier or later stages. We will discuss this in another context.

CHAPTER III

CONSUMPTION AND SAVING

Consumption does not mean the actual destruction of matter but only a certain disarrangement of matter which can assume various forms. The process of consumption will become clearer after we have developed a detailed theory of economic good. In the present context, it will suffice to note that consumption appears in the real world in the following three forms :

1. As *final* consumption which is the ultimate goal of any economic activity and thus furnishes the greatest incentive. Even the factors of production are produced because there is normally (at least in the long run) an effective demand for their products on behalf of the ultimate or final consumer. As already mentioned, final consumption is an end in itself and for this reason should be considered as a process of living and not as an economic activity. Final consumption is determined by the goal which is set, not by the kind of good which is consumed.

If someone uses the services of a durable good, for instance a chair, as an ultimate consumer, there is final consumption. On the other hand, coal, used by a factory, is not "finally" consumed, although one must admit that it disappears as if it were consumed in an ultimate or final sense.

2. As *productive* consumption, which occurs when a good is used up in the production of another good. Here final consumption serves as an ultimate purpose. For instance, coal productively consumed by a factory participates in the production of a good for final consumption.

3. As *proper* (or final) consumption of productive character which we have discussed before. Such final consumption is not an end in itself and thus is an economic activity. For instance, a professional sportsman consumes selected foods in order to build up his muscles or a worker is served meals at a low price by his employer who wants him to have greater productive energy. Final consumption of a slave normally belongs in this category. In other words, in the case of ultimate consumption of productive character, the process which ought to be an end in itself ceases to be such.

The determination of consuming habits is rather an institutional problem. The following scheme shows that individual final consumption is thus determined :

1. *Under normal capitalistic conditions*, it is determined by an economizing individual himself who develops a subjective scale of preferences into which he translates his hierarchy of wants and who may care for a positive hedonistic balance sheet. Yet, in reality, his consumption depends in a large measure upon the size of his money income and upon actually expected prices. Consequently, in this case, final consumption is free institutionally but not quite so from a purely economic standpoint. As a matter of fact, the economizing of an individual is in capitalism somewhat pre-determined by the above-mentioned factors.

2. *Under abnormal capitalistic conditions*, for instance, in the case of a major war, a part of the individual's consumption is restricted because of institutional interference. In this case, rationing of some goods is introduced which partly divorces the individual's consumption from his money income and expected prices. In other words, his subjective scale of preferences is co-determined by the interfering state.

3. *Under conditions of a collectivist economy (i.e., a centrally directed economy)* which, however, keeps individual incomes, the development of final consumption can assume one of the following forms :

(a) Rationing becomes complete and thus drastically restricts consumer's choice. In other words, the ultimate consumer can practically choose only rationed goods, while trying to diversify his wants within institutionally fixed limits. Usually, however, the recipients of ration cards are allowed to exchange the rationed goods among themselves and thus to shape their consumption in a greater conformity with their wants.

or

(b) All individual scales of preferences are completely equalized by the state. In this case, an individual cannot make any choice because the state practically economizes on his behalf. Here regimentation of final consumption becomes complete. In the Soviet Union to day the state co-determines the subjective scales of preferences only *indirectly* since it determines the quantity and quality of almost all economic goods, sets most prices and fixes the wages. In any fascist economy consumption is often controlled without direct compulsion of the final consumer by a substitution of materials. So, for instance, artificial fibres were substituted for wool, silk, etc., or the composition of an article, like bread or chocolate, was changed.

W. Mitchell and A. Pigou stress that the waves of optimism and pessimism which affect the business fluctuations are favored by the luncheon clubs that bring about a close contact among

businessmen. Also Charles Gide emphasizes the fact that final consumption has a great sociological significance because it frequently strengthens friendly intercourse ; this is especially conspicuous in collectivistic consumption of goods. On the other hand, we cannot share Gide's contention that spending means consumption expressed in terms of money. It is evident that spending a portion of man's money income for the purpose of buying consumer's goods serves only as a distinct preparation for final consumption and thus is an economic activity. On the other hand, deferment of final consumption is defined as saving which can assume various forms. Saving can appear as follows:

1. In a *hedonistic* sense. We previously discussed this kind of saving, namely, an economizing individual observes the principle of saving when he develops his subjective scale of preferences in such a way that his present consumption is not stimulated at the expense of his future wants. In other words, he does not inflate his present wants. In this case, saving is a constituent part of the process of valuation and thus is a psychic phenomenon. Spann, Pigou, and Knight pay a great deal of attention to this kind of saving.

2. As *static* saving. This kind of saving appears when man stores some consumption goods in order to make his final consumption more even over time. We exclude here hoarding because it is caused chiefly by expectation of emergencies. Static saving is typical of ancient nations which stored food in anticipation of a famine. Recall, for instance, the policy of Joseph of Egypt. Such a saving especially means provision for the near future. Furthermore, it is important to note that a certain stock of consumer's goods always exists within a modern national economy. This is the reason why final consumption is carried out more or less evenly (under normal conditions) in any given period of time. Static saving is precisely the main task of commerce, in particular of retail trade and means production of time and size utilities.

3. As dynamic saving, which may appear in one of the following ways :

- (a) Sometimes such a saving is represented by the storing of consumption goods. But here this action aims at profiting by a natural *growth* of the original utility of a good. This occurs, for instance, when lumber cures, wine ages, tomatoes become red, etc. All these goods usually are stored for a considerable time.

- (b) The most regular dynamic saving means that final consumption is reduced in order to make a larger production possible. Still even in fairly recent times, some economists believed that a manufacturer must store raw materials, tools,

and even means of subsistence for the workers. They represented the old version of the Wage-Fund theory (which we will not discuss at this point) and were duly criticized by those economists who believed that workers are paid out of current production of the country. Even now, however, where transportation facilities are poor, consumption goods and in particular food needed for the local labor force are accumulated sometimes. This is practised, for instance, by the modern oil industry in Arabia. Such a continuous storing of consumption goods for the benefit of employed workers represents a distinct dynamic saving if it takes place not within a static economy which only reproduces all kinds of goods but takes place in order to increase the current level of production. Furthermore, governments store essential raw materials for at least two reasons, namely :

1. To insure productive consumption, that is, to make it regular on behalf of state factories. An increased production of goods can be aimed at simultaneously.

2. To have a strategic reserve of raw materials for an eventual war. This latter case, however, is hoarding rather than a certain saving.

(c) Dynamic saving sometimes means that a non-durable good which could be consumed is transformed into a productive agent. For instance, one can use grain, not for producing bread, but as seed for future production of grain. This case demonstrates the fact that dynamic saving appears under static conditions even if this seems paradoxical.

(d) Another development in a sense related to this case occurs when the existing real capital goods are shifted to the production of producer's goods, instead of being used for production of consumer's goods. Here, however, dynamic saving is exercised by the national economy taken as a whole.

(e) There is dynamic saving if an individual does not spend a portion of his money income on buying consumption goods and does not immobilize it by hoarding but transforms it into liquid money capital which will be invested shortly and thus will serve in the production of economic goods.

There is no doubt that from the standpoint of an individual hoarding means a deferment of consumption and thus might be considered a kind of saving. Yet, this process immobilises purchasing power and does not serve, at least in principle, to even out consumption or to increase production. For this reason, since hoarding is neither static nor dynamic saving, it is no saving at all from the standpoint of the national economy as a whole as long as the hoarded goods or means of assignment are not dishoarded. Consequently, at least in our opinion, one should make a distinction between hoarding and saving.

Lord Keynes paid particular attention to the functional relationship indicating how consumption varies when income changes which he defined as the "consumption function." Every economizing individual may eventually develop a subjective "schedule of the propensity to consume" which will show how his expenditure on consumption goods varies when his money income changes. Therefore, one can approximately find out, if necessary, the actual income-elasticity of his consumption.

CHAPTER IV

ECONOMIC GOOD

As we have already seen, economizing signifies the adjustment of the given relatively scarce means (goods) to the given relatively abundant ends (wants). A very important question thus arises : What must we understand by an economic good ? In modern economic theory the concept of "good" is treated variously. It is interpreted in the following four ways :

1. As a means of satisfying human wants; a good is then a distinct counterpart of wants in an equation representing the process of economizing. This standpoint is advocated by Cassel, Shumpeter and Knight. Also Marshall means that a good is a desirable thing or an article that satisfies human wants. It is assumed, in contradistinction to Adam Smith, that a good may have no eventual exchange value.

2. As a useful object which is subject to man's power of disposition. Otherwise, one can talk only about a "latent resource" or a "commodity element." This is von Wieser's method.

3. As any passive means regardless of its material or spiritual character. This is Spann's approach.

4. As any useful phenomenon which costs and is a property even if its character is of a purely immaterial sort. This proposition is advocated by the Russian-German economist Henry von Storch.

The first two approaches are realistic or rather empirical while the last two approaches are idealistic.

The main scheme pertaining to a good which is conceived as a "means of satisfying wants," is built up as follows :

I. *Material goods* which are subdivided in the following way :

1. *Non durable consumption goods*. These goods are disarranged in a single act of consumption and cease to exist as matter of the same order. If they procure an immediate and direct satisfaction of wants, they are defined as "direct means." Cassel is right when he says that in case of a non-durable consumption good the good and its use are blended. Goods of this kind should be subdivided as follows :

(a) *Goods of proper (or final) consumption.* When such a good is used by an ultimate consumer, its substance is entirely lost although the matter itself is not destroyed literally. For instance, food is transformed into energy while gasoline used in a pleasure trip is converted into mileage.

(b) *Productively consumed goods.* These goods are also conspicuously consumed and their substance can be lost entirely. Yet, they always serve as indirect means of satisfying wants, because their consumption is necessary in order to obtain normally a direct means, that is, a good of final consumption. In other words, any non-durable productive good is a good of "derived demand" and should be considered also as a certain productive factor. Eventually, it can be defined also as an investment good. In the category of the productively consumed goods belongs, for instance, coal used by a factory, but not, however, coal consumed as fuel in a household which is, in principle, a good of final consumption. In the latter case, our assumption is that heating has no pragmatic meaning. Some productively consumed goods do not lose their substance; they simply cease to be available as material since they are embodied by another good when they are used. At least this is the case during the life-time of the product into which they are transformed. This is true, for instance, of iron, cotton, wood, which are used as distinct raw materials. The degree of being productively consumed is in general very different. Sometimes the original substance of the given material is completely disarranged, as in the case of flax. Sometimes, on the contrary, it is easily recognizable in the finished product, as for instance, iron.

2. *Durable goods.* These goods are used several times in succession or continuously during a certain period of time. A good example for the first case is a sail boat; for the second case, a house. These goods are used by being worn out. The writing off of depreciation normally indicates the degree of consumption with regard to such a good. Furthermore, a good and its services are not identical in this case. This fact was realized still by St. Thomas. Durable goods can be subdivided as follows :

(a) *Durable consumption goods*, for example, plates, clothes, which serve in a sense directly since they are goods of immediate use. Normally, these goods are not written off when they are used.

(b) *Durable producer's goods*, which are subject to regular amortization. Such goods are distinctly indirect means, that is, they are conspicuous productive agents. Some of these goods, for example, machine tools, are used for production of other indirect means, while other durable productive agents, for

example, a machine, serve the production of some goods of final consumption.

Durable goods are a complex phenomenon inasmuch as these goods themselves are not used for the satisfaction of wants, but their services are. Consequently, they already have something immaterial about them. Yet they exist essentially apart from their services. For instance, a house as such has a price but it also can be rented. In the latter case, a price is paid for the use of its continuous services. Sometimes a durable good is kept regardless of its services; for instance, one can keep a boat as an object of art in order to be looked at or an empty house as an "inflation-proof" investment. If a durable good is used for immediate and personal consumption (like a boat), it can be defined as an indirect means in the broader sense, because it satisfies man's wants through its services, but not by being directly consumed.

3. *Durable goods* which can be put to different uses. These goods used in one way are final consumption goods; used in another way, they appear as durable goods. For instance, a sheep is a non-durable final consumption good after it is slaughtered to be used as meat. It is, however, a durable good if it is used for the production of wool. Finally, a sheep can be a mixed good as long as it is fed for slaughtering. In such a case, it furnishes wool but its final destination is the table of the consumer.

II. *Services* which most economists define as immaterial goods. They should be subdivided as follows :

1. Services rendered by *durable material goods* which are impersonal because they are stored in an inanimate material thing. So, for instance, buying a musical instrument means the purchase at one time of a long series of uses. A violin is practically a bundle of future services which are consumed gradually by its user.

2. *Human services* which are not uniform since they are composed of the following two types of services rendered by a human being, namely :

(a) *Personal services* such as those of teachers, priests, lawyers, musicians, actors, household servants, etc. They are so *perishable* that ordinarily they must be consumed the moment they are rendered. Here the relationship between producer and consumer is personal. To this category belong frequently services rendered by a state official.

(b) *Semi-personal services*, for instance, protection given to a definite individual by an insurance company which gratifies his desire for security.

(c) *Impersonal services*, rendered by a human being. The services rendered by a non-human being should be considered as a certain category among those services which are performed by material goods. Such a solution is logical because usually a non-human being rendering services is a natural resource improved by man. A factory worker or a soldier renders impersonal human services. This kind of human service can be considered from the standpoint of the national economy as a whole, for example, services of a saver and investor; from the standpoint of a business concern, for example, the services of a creditor and shareholder; or from both standpoints at once, for example, services of an entrepreneur. If we consider the services rendered by a worker from the standpoint of cost accounting, we have to make a distinction between the following three cases :

(a) Direct services, for example, services of a worker who operates a definite machine.

(b) Semi-direct services, for example, those of a man who repairs machinery in the given section of the factory.

(c) Indirect services, for example, services of a janitor or a clerk.

Great confusion is created by the fact that most economists such as Cassel, do not stress the fact that not every human service is personal in nature.

The above-cited main scheme of a good is insufficient as it does not admit the existence of any non-material good other than services rendered by a human being directly or indirectly through material durable goods. In the latter case, we start with the idea that any economic act is an "*actus humanus*." Yet there still are other goods which are numerous and represent an *intermediate* phenomenon although they usually are incorrectly considered as immaterial or, on the contrary, as material goods. We can treat them as a supplement to our main scheme. In the category of intermediate goods belong the following phenomena :

1. All rights to hold or use or derive benefits from material things or to receive them at a future time, such as the rights embodied in bonds, shares, mortgages, long-term lease contracts, and right of way. All of these rights can be considered as a portion of the assets of an individual or a firm. The rights to hold and to use are rare and can be assessed only if they can be sold at capitalized net revenue. In this case we have to do, not

with property, but with possession. Albert Meyers confuses both phenomena by saying that the right which one has to the use of a house, either because one owns it or rents it, is property. By property we, like John Commons, should understand a good which one can freely dispose of or which one can freely withhold from the use of any other man. Thus, ownership or property, in principle, is unlimited in scope and in time. If, for instance, a piece of land is leased for ninety-nine years, as sometimes happens in England and in Soviet Russia, the tenant does not own it as his property because at least the inheritance of it is conditional, that it, is limited in time.

Alfred Marshall considers all rights as material goods. Of course, he does not mean stock certificates or bonds as such but the rights which they embody. Most economists, such as McLeod, consider rights as immaterial goods. In our opinion, however, they are *intermediate* goods because on the one hand, they do not represent matter (they are but claims); and on the other hand, they assign to a material good. For instance, a stock certificate assigns a "right" to a portion of net revenue derived from the real assets of the respective business concern or to the portion of assets themselves in case of their wholesale liquidation. One can say that normally a right gives a certain control over material goods. Patents and industrial secret devices, etc. belong to this intermediate category of goods because they secure a power over matter. On the other hand, there are some rights which are not material. They are unusual in our present capitalistic system. We mean the right to require labor-dues and various personal services, typical of serfdom and of a modern totalitarian state. In capitalism perhaps the only major example for such a type of rights would be military service due to the state. Marshall calls these rights "external non-material goods," although he usually considers rights as material goods. A particular category is represented also by copyrights. They are peculiar intermediate goods because they give control over the net revenue derived from another intermediate good (for example, a book).

2. Intermediate goods in the *narrower sense*, which are material goods representing bearers of "utility in spirit." To this category of intermediate goods belong antique objects, statues, paintings, books, etc. A famous painting does not get a higher price, because it is made of a certain material. Even a gold statue should not be considered as a material good when an aesthetic element enters it. This was realized by J.B. Clark.

Any *brand* or differentiated good in a sense is an intermediate good. It is "differentiated" in the customers mind because of some qualitative elements inherent in it. On the other hand, one should not go so far as to agree with Professor Boulding, that

any final consumption good is a "bundle of services." Of course, one cannot deny that when an individual buys a commodity, he purchases the services of all the retailers, transport workers, etc., who participated in the preparation of the given good for final consumption. Yet, all of these services expressed in terms of utility, do not differentiate a good as such by creating some immaterial elements which would affect the buyer's valuation. A commodity of this kind is nothing but a material good. Clark's contention that any material good is a "bundle of useful qualities" so that its price is a composition of many "part prices" should be likewise rejected by us. Of course, one must admit that an automobile may give simultaneously a direct pleasure, an aesthetic satisfaction and save time. Yet, if such a car is exchangeable, it will be treated as a homogeneous material good. One will practically pay for a means of transportation with regard to its size and speed. Only when an automobile is treated as a distinct brand, will it be an intermediate good and command a high price which will be paid because of some composite, qualitative elements inherent in such a good. Sometimes the term "intermediate good" is used in another sense which differs from ours. It refers to a semi-finished product which is a distinct material productive good. Such a good is "intermediate" only in a purely formal sense because it no longer is a raw material and not yet a finished product. In our opinion the only other term which could be used for defining what we consider an intermediate good would be "synthetic."

Our main scheme pertaining to "good" also neglects one non-material good which cannot be considered as service. However, it is intangible, can be estimated as an asset, and can be sold. We mean in this case "good-will." Marshall calls it "external non-material good" because it is determined ultimately by the relationships beneficial to the owner. We cannot consider good-will as an intermediate good since it does not assign to matter (at least in principle).

We could also accept for our main scheme the distinction made by Reverend Pesch between an ordinary durable good (a "wear and tear" good) and a material durable good which does not depreciate if it is used under normal conditions. To the first category belong machinery, buildings, etc. which must be written off; and to the second category belong some natural resources, like a harnessed steam driving a mill. On the other hand, we cannot follow Pesch when he advises us to exclude from the main scheme any non-material good even a personal service. Of course, he does not deny that some immaterial phenomena act like useful means and bear a price tag. Yet he does not recommend that we treat personal services and rights (which in contradistinction to us, he usually considers as

immaterial phenomena) as economic goods because such a treatment would "debase" them. Likewise, some other economists are reluctant to define personal services as goods because one would thus reduce a human being to a bearer of saleable services as if he were a durable good, like cattle or a piano. This objection is understandable but we have already practically removed it by sub-dividing services into human and non-human services of a material good and a non-human being.

We turn now to the second approach to the concept of good given by Frederick von Wieser. There is one fundamental difference between his standpoint and our main scheme, namely, von Wieser does not mean a good in general, but exclusively an economic good or commodity. Yet, his approach does not imply this openly because a free good also can be a "useful object subject to man's power of disposition." The question arises : How is an economic good or commodity defined in modern economic theory. We can distinguish between two different approaches :

1. Von Wieser says that it is a scarce utility subject to man's power. Pesch gives almost the same definition : Matter is an economic good if it is useful, scarce, attainable (that is, within man's reach) and not a free gift of nature (that is, it costs something). Also, Richard Ely comes close to this approach since he contends that economic goods are those which exist in quantities less than sufficient to satisfy all wants for them. Consequently, it is assumed that economic good is scarce, useful and can be obtained only by effort. In other words, as Marshall maintains, one must economize in the use of commodities and must be willing to undergo sacrifices in order to obtain them.

2. Frank Knight says :

"Economic good has a casual relation to man's conduct because it possesses itself of a certain power over his conduct."

We agree with the first approach that any good is economic or is a "commodity" if it is useful (that is, bears an objective original utility), is relatively scarce and is not directly available. Such a good is familiar also to Robinson Crusoe. He can obtain some useful things only by exertion and by sacrificing other alternative uses for his effort in terms of time.

If a commodity is useful, transferable and carries a price, it can be considered as merchandise in the broader sense. If a good is merchandise in the narrower sense, it means that it is produced explicitly for the market.

Von Wieser maintains that a commodity is a utility while we prefer to say that it bears utility or rather usually is a bundle

of different utilities. In our opinion to identify utility with the good itself is scientifically incorrect. Such confusion takes place because we consider the good from the standpoint of its economic curriculum. When, for instance, a piece of iron ore is extracted, we say that a new utility emerges and begins to undergo the process of ripening. In this case, utility is identified with net surplus product, which, however, in reality represents a new bearer of original utility. If iron ore is stored and later invades the market in the shape of different iron products, we usually say that the utilities are actualized. In reality, however, we are concerned with the transformation of a utility bearer into a bearer of exchange value or into a surplus product in the broader sense.

Some valuable refinements of the concept of utility have been made in economic theory, namely :

1. Ely says :

“Utility is the power to satisfy wants, not the power to confer benefits.”

This means that a good sometimes can bear a negative utility even from an objective viewpoint. For instance, a cigar is as useful in the economic sense as a piece of bread or a book, yet usefulness has another connotation here.

2. According to Professor Knight, utility is power over conduct because any object possessing utility enables man to satisfy his conscious wants, that is, desires which he takes pains to actualize. Knight assumes that free goods have no utility because they do not affect man's conduct. In other words, their use does not require any effort and consequently often is unconscious. Many economists, including us, would say that Knight neglects the difference between utility and value. According to our standpoint every free good which man is able to control, that is, to use, necessarily possesses an objective original utility. For instance, sun rays are useful and can be harnessed by man. They distinctly participate in the process of production while remaining a free good. On the other hand, some natural resources on the planet Mars do not as yet possess utility because they are, thus far, inaccessible. Thus, a free good has an objective utility but usually is not subjected to valuation.

Von Wieser says that objects whose usefulness has not yet been discovered by man and which for this reason have not yet been subjected to his power of disposition possess hidden or dormant utility and should be considered as *latent resources*. If they are relatively scarce, they can be defined also as potential commodities. Wieser still speaks of another category of goods which he defines as *commodity elements*. They are goods whose utility is known but of which man has so far never been able to

avail himself effectively, because he lacks the power or apparatus to do so. Also, Henry Pesch insists that a good is a real good only if it can be reached and subdued by man.

We touch here an interesting case since we can say that socio-economic progress is sometimes given a symbolic expression. Let us consider some "*indices unique*" in a broader sense which serve as symbols of such a progress, namely :

1. The more progress develops, the more are latent resources transformed into commodities. This occurs because man increases his knowledge of nature. Civilization constantly enlarges man's control over matter. Now, even control over nuclear energy of the atom is a fact.

2. The more progress develops, the more luxuries are transformed into comforts and comforts into necessities. This is the main genetic scheme pertaining to the good. Sometimes, however, luxuries develop directly into necessities.

3. The more progress develops, the more "*commodity elements*" are transformed into real commodities, and the more consumption goods develop into "*commodities of civilization*." Both items of this proposition are derived from von Wieser.

The first case involves the problem of the so-called complementary goods. These goods can appear in one of the following forms :

1. As goods of *joint demand* which, in their turn, should be sub-divided as follows :

(a) Goods which show an extreme degree of complementarity. For instance, one glove normally is meaningless if there is no complementary glove. The same can be said of two shoes of the same pair or rather of the same style. One can hardly buy them separately.

(b) Goods showing a strong degree of complementarity (a rather intermediate case). Ink cannot be used without a pen, yet both goods can be acquired separately. Also, the relationship between food and beverage (in particular, water) or meat and salt, is not inseparable, but still has a very high degree of complementarity. In all of these cases, however, each good, in principle, is independent of the other good. There are some goods which show a comparatively low degree of complementarity, including bread and water, or shirt and tie, scotch and soda, although they are "*matched*" sometimes.

2. The goods of joint supply. We shall discuss them more fully in another context. It is sufficient to note here that in this

case there can be a high degree of natural complementarity. For instance, meat and hides are strictly complementary because one cannot produce meat without producing hides. The relationship is much looser if a good can be considered as an eventual by-product of another related good. This is the relationship between kerosene and gasoline for instance. One can produce gasoline without increasing the supply of kerosene and vice versa.

3. There are some goods which are complementary in a broader sense. This is stressed by Karl Menger and von Wieser in particular. In this category belong all complementary means of production which are goods of indirect or derived demand. So, raw materials without tools and workers, or machinery without materials and normally labor without tools, can accomplish nothing. Every factor of production is only a commodity element if the complementary productive agents are lacking. For instance, coal in northwest Siberia remains until this time, a commodity element because there are no "cold-proof" means of mining and especially no such means of transportation. Also, the soil of a desert has a meagre chance of ceasing to be a commodity element. All this implies that the more progress develops, the more commodity elements are transformed into commodities. This fact has a certain affinity with our former case, namely, when we had to do with latent resources. Yet, there is an essential difference between these two cases because in the case of a commodity element, man knows how to use the given natural resources but is unable to touch them, since the necessary tools are lacking. Von Wieser is right when he says that the most sudden increase in man's possession of goods has occurred when the complementary "*goods of civilization*" have been added to the actualized commodity elements found in the soil. Von Wieser uses the expression "good of civilization" in two different senses :

(a) Sometimes he means elaborate instruments conceived as complementary productive agents which make man's labor more efficient in terms of time and simultaneously render this diminished exertion less painful. In other words, such instruments produce more quickly and more easily.

(b) At other times, von Wieser means that every consumption good can be transformed into a "commodity of civilization," if some subsidiary uses are added to its principle use. In such case, a formerly primitive good starts to yield a refined composite satisfaction. For instance, clothing in a civilized country is more than a mere bodily protection against cold but satisfies simultaneously man's demand for sanitation, decency, beauty, comfort etc. Veblen says that under modern conditions women's clothing is rather "dress." Also, a civilized man as a

bearer of knowledge never can be a narrow specialist but must possess a certain mental versatility.

4. Complementary goods in a *universal* sense. Such goods are simply unavoidable or vital for any process of production, for example, physical good, oxygen or immaterial good, knowledge. To this category belong such heterogeneous phenomena as location (site) and durability. The Mechanical and Organistic schools, in particular Leon Walras and Spann, maintain that every good is in a sense complementary, because any good, if it is used (that is, if it is no longer a dormant force), performs a certain function from the standpoint of the whole and for this reason depends upon any other good which participates in the given organic functional system (according to Spann), or in the given mechanistic functional structure (according to Walras).

As already mentioned, Spann considers as a good any material or immaterial element which *passively* enters the system of economic means. To this system belong either material objects, that is, ordinary goods, or actions representing a passive service. The originality of Spann's approach is shown in the following propositions :

1. Any labor or effort which is auxiliary and thus passive is a good in contradistinction to an active effort. For instance, the actions of a skilled worker, in particular of a machinist, cannot be considered as goods while the labor of a stoker is a good. In general, every good is a factor of a lower order and is led by an active agent.

2. The material goods are pure unconditional means because they never can be an end in themselves, save in a pathological case. Any other good, in particular, passive labor, can develop simultaneously as a means and an end. Thus, passive human actions are implicitly more elevated than an active material good, although they likewise belong to the realm of goods. The "instinct of workmanship," in Veblen's terminology, can be inherent in a passive human effort.

3. Any accumulation of material goods is a dead inventory (in Struve's terminology, a "heap") while human actions can create a certain community (in Struve's terminology, a "system"). Frederick List, likewise, used to say :

Take the spirit away and the economy will become a graveyard of materials.

The American "graveyards" of automobiles which impress Europeans are an example.

A still more idealistic approach to the concept of good was developed by Henry von Storch and his numerous Russian followers. Marshall and Eduard Heimann also seem to be influenced by Storch. Marx considered Storch the most intelligent among the "vulgar" economists. Let us take now the main propositions developed by Storch :

1. Economics analyzes either material wealth or civilization. In the first case, it has to do with material goods which can be material goods in a broader sense. By this latter kind of goods, Storch understands intermediate goods in our terminology. When economic theory studies civilization it concentrates on the analysis of *internal goods*, whose existence was in principle realized still by Aristotle.

2. Internal goods are subdivided into primary, (like health, knowledge, skill, taste) and secondary (like leisure and security). The latter goods must be present if primary internal goods should be enjoyed.

3. Any internal good is non-material, cannot be literally transmitted, is lasting, that is, is not finally consumed, and is in part co-produced by the individual who acquires it.

As far as the first proposition of Storch is concerned, we must admit that he does not misuse the concept of civilization because sanitary conditions, education, and leisure really improve and increase, when the given nation becomes more civilized. Yet, we have seen that material goods also experience development and transformation when the socio-economic progress grows. For instance, necessities become more numerous and more varied; natural resources are more and more utilized, etc. Thus, we study civilization also when we analyse the realm of material goods.

As to the second proposition of Storch, it is somewhat controversial since there are three different approaches to the concept of "internal good," namely :

1. The proper idealistic school uses this concept because not only skill, knowledge and taste (in the field of fine arts) are distinct incentives and productive forces but also health can be treated in a similar manner. Besides, the feeling of security is dependent on the given degree of community maturity in Spann's terminology.

2. Marshall understands by internal goods, non-material and non-transferable qualities and faculties for action and for enjoyment which lie within the individual himself, such as business ability, skill, health, the faculty of deriving recreation from reading, etc. Consequently, he identifies internal goods with

personal qualities and makes Storch's concept narrower. For instance, knowledge is considered by him as faculty already acquired. Its transmission is neglected. A phenomenon, like the feeling of security, will rather remain outside of Marshall's scheme.

3. Ely restricts the concept of internal good by refusing to consider personal qualities of man as peculiar goods because such qualities are a part of man's personality rather than of his possessions. Still he recommends that an exception be made for knowledge and skill which, according to him represent a priceless heritage and should be considered as immaterial goods.

In our opinion, Ely's analysis is best because he is correct in admitting that knowledge and skill, which are immaterial goods, can be bought and sold. On the other hand, it is more difficult to say the same about taste and in respect to health hardly permissible at all, since the latter phenomenon represents a distinct personal quality. Yet, the idealistic school is logical when it places such personal qualities, as taste and health, under the heading "internal goods" because they are very distinct productive forces and thus have something in common with economic means. In other words, Storch is not inconsistent in his second proposition.

As to his last proposition, it is very instructive and clarifies the character of some immaterial goods, like knowledge and skill. It is true that knowledge is transmitted by a teacher, not like a material object, because when he teaches only his services are acquired while his own knowledge is not impaired since it is at least lasting. Every young instructor knows from his experience that he increases his knowledge through teaching. On the other hand, a student cannot acquire knowledge passively but must co-operate by reproducing it. This was stressed by St. Thomas Aquinas. In a sense Storch is right when he says the same about the process of acquiring health because one cannot be cured by a physician unless one makes an active effort to regain his health. Yet, both cases are different because a teacher, in the last analysis, transmits knowledge while a physician is unable to transmit health. He simply imparts a device.

Consumption of personal services can be as follows :

1. *Passive.* For instance, a servant shines the shoes of his employer, who at the same time may be asleep or absent. Here consumption is final.

2. *Active.* The given bearer of human personal services transmits an internal good such as knowledge. Here consumption means reproduction. Yet, it can appear in two different forms;

(a) Consumption is an end in itself. For instance, a student is eager to acquire knowledge as such.

(b) Consumption is instrumental. For instance, a student studies only because he desires the credit.

Only the feeling of security could be considered as an internal good, not however security as such, which should be identified with protection and thus belongs to the realm of services. Insurance premium however is a payment for both of them.

In order to complete our survey of different kinds of goods, we still have to distinguish between the following types of goods :

1. There are some substitutive, antagonistic goods and goods of mixed relationship. Goods are substitutive or competing if an increase in the consumption of one good is associated with a decreased demand for another good since both of them compete directly. For instance, there is such a relationship between oranges and grapefruit or between butter and margarine.

If two goods exclude each other entirely, they are antagonistic. This is a rather rare and subjective category. For instance, quite a few people consider milk and fish, or tea and cucumbers, as goods which should not be consumed together. Yet, these goods can be purchased and stored simultaneously. In addition, not every consumer will agree that these goods are antagonistic because different persons are allergic to different combinations of food.

Even fire and water have a complex relationship. In principle, they are antagonistic. Yet, sometimes they are complementary either for an institutional reason as a symbol of purification, (remember, for instance, the ancient religious rite of the Tatars), or for technical reasons, since, when they are together they produce steam for central heating. No strict line of demarcation can be drawn in similar cases. For instance, land and fertilizers are simultaneously complementary and substitutive, even if not antagonistic. In other words, they show a relationship of mixed bias. In general, two goods of a mixed relationship sometimes compete with each other and sometimes are demanded jointly. To this category very conspicuously belong sugar and marmalade. If one buys marmalade for consumption, the demand for sugar decreases. If one produces marmalade, the demand for sugar increases.

2. Some goods are specific and some are non-specific. The goods belonging to the latter category are never rigidly confined to one special kind of use. For instance, a machine

tool which can be shifted at any time to different tasks within a factory, is a distinct non-specific productive agent while a specific tool represents the reverse phenomenon. Also, in the field of final consumption, there are some specific durable goods (in principle luxuries), such as a fish fork or a top hat. Any specific productive agent is especially sensitive to the cyclical fluctuations.

3. There are goods of the same *productive stem* and goods of *productive relationship*. Both concepts were developed by Karl Menger and Frederick von Wieser. Primary entelechy determines the productive stem. Thus, every good made from iron is a product of the stem of iron. The relationship between iron ore and an iron stove is a vertical one. Any iron stove is, in respect to iron, an ultimate product or an iron good of the first order which is the closest to final consumption. Here iron ore is in its last stage of ripening.

On the other hand, productive relationship has a horizontal character. Every good is productively related to any other commodity that has some stem element in common with it. Thus, there is a horizontal relationship between all products of the stem of coal, of iron, or of non-specific tools. An iron stove is distinctly related in a horizontal way to an iron chair.

The fact that most goods are productively related has great economic significance because if one kind of good is over-produced, the manufacturing of its "productive relatives" must necessarily decrease provided that the given fundamental raw material cannot be produced *ad libitum*. Consequently, mass production cannot be expanded indefinitely (at least in principle). This implies that there is another social limit which cannot be violated, namely, the *limit of economic proportionality* in von Wieser's terminology. If the social limit of profitability is a rather historical category, the latter limit is a logical category, because the productive relationship among the goods is a natural phenomenon.

5. Goods can be homogeneous or, on the contrary, heterogeneous. Homogeneity, however, is not a uniform concept, namely :

(a) Goods are homogeneous in the *narrower* sense when their services cannot be treated apart from the goods themselves. To this category normally belongs any non-durable consumption good, in contradistinction to a durable good which in this sense is heterogeneous.

(b) Goods are homogeneous in the *broader* sense if they bear no "prestige utility," that is, when they do not represent a brand and thus are not preferred by the customers because of certain qualities or services associated with them. On the other

hand, heterogeneous goods, in this sense, are differentiated products (or brands)

5. There are goods which are physically indivisible but economically divisible; for instance, a building and its site. Some other goods, on the contrary, are physically divisible but economically indivisible, as a stock of interchangeable goods which a monopolist sells only as an entity. Sometimes a competitive wholesale dealer does the same thing. In Soviet Russia frequently a "forced assortment" treated as a unit, is composed of different articles. For instance, one can buy a certain amount of fish only if he purchases a Communist propaganda book.

CHAPTER V

UTILITY AND WANTS

The process of economizing can be expressed in terms of a ratio between the relatively scarce goods and the relatively abundant wants, which should be adjusted to each other. At this point, we know enough about economic good but the concept of want still should be clarified. We can say that a want is a tension or a desire to acquire an object possessing utility or to get rid of an object possessing negative utility, or disutility. It is wrong to identify a negative good with a disutility, just as it is incorrect to consider a positive good as a utility. Disutility is simply a certain quality of a "discommodity" *i.e.*, of a negative good.

One usually pays for the service of removing discommodities so that disutility gives rise to a very distinct economic activity. For instance, garbage or waste paper is removed by a paid agency which may be managed by the municipality. This can also be true of some durable goods, such as worn out machines and automobiles. Yet, frequently these goods are sold at the so-called "scrap value" provided that the costs of scrapping, or the final destruction of the given form utility do not exceed the expected proceeds. When a good is capable of being sold as scrap, it does not bear disutility. It simply is a depreciated commodity.

Utility is objective if it represents the want satisfying ability inherent in the good. The objective utility of a good is its general usefulness or its capacity to satisfy a human want. This want satisfying quality of a good can be defined, in Irving Fisher's terminology, as its "wantability." Although objective utility is inherent in the good, the contention of Davenport and Jevons that utility is a certain "relation" can be accepted (even in a broader sense), because the term usefulness implies that there must be a potential user to whom the good eventually can be useful. Also the term "good" indicates that the given object is good for something and somebody. When the usefulness of a good is considered from the standpoint of the possessor of the given good or from the standpoint of the person who wants to acquire it, one speaks of subjective utility. Finally, one can, like Frank Knight, talk about "social" utility if a material good, like a mail box is capable of satisfying a collective want. If a good serves as a good of final consumption, its utility is direct. For instance, milk contributes to man's diet which is an end in itself. On the other hand, if the given milk is used to make butter,

its utility will be indirect or derived. A good which possesses objective utility or, in Veblen's terminology, "serviceability," sometimes has no subjective utility. Eye glasses for a person who has normal sight are a good example. On the other hand, no good can possess subjective utility unless it is generally useful. Objective utility can be at the most restricted. Let us take the following two cases showing a complex relationship between the two kinds of utility :

(a) A good may be subjectively useful to only a few people, such as an artificial glass eye.

(b) Sometimes a subjectively useful good possesses an objective disutility or vice versa, for example, opium and in the latter case medicine for a child.

Disutility of any kind is a negative utility. Edwin Seligman has introduced the concept of "inutility." He means that sometimes a good bearing objective utility or objective disutility is indifferent to the individual who does not realize that he could use it. Thus, effective utility has a certain psychological character; in other words, it must be recognized by man. Quite a few goods have inutility for a savage. In such a case, objective utility is dormant, but nevertheless exists.

A want is a realized, or perhaps still better, a conscious need. We need a good many things, such as vitamins, but we often do not want them since we are not accustomed to using them.

Knight says correctly that goods needed but not wanted give rise to no conduct and hence to no conflict. Thus, he considers this problem simultaneously from the standpoint of economic theory and of economic sociology. Such goods simply do not enter man's life, because they bear inutility. We can use the genetic approach and say that the more social economic progress develops, the more needs are transformed into wants. Sometimes, a good which is wanted is not objectively needed; yet, an individual believes that he needs it. If a want is actualized or brought to the fore, we speak of demand. For instance, very often an economist does not mention the psychological and physiological requirements for heat, which are wants since they represent a conscious tension. Instead he treats such wants as a demand for fuel, clothing, shelter and food. Demand is more concrete than wants, because an individual agrees in this case to incur a cost. Not every demand which is developed is virtually gratified or becomes effective because its bearer must be willing and able to pay the cost of the given good. For instance, in the case of an auction, there are many actualized demands defined as bids, yet only one of them enjoys realization and becomes effect-

ive because its bearer is willing and able to pay the highest price. A man who attends an auction but does not make a bid has only a want, that is, a conscious need.

Wants, like goods, (or the means of satisfying them) are partly material and partly immaterial. To be exact, any want, as a psychological tension, is immaterial but it represents a desire either for a material or an immaterial good. The main difference between the two categories of wants is that spiritual or non-physical wants are by far less subject to satiety than their counterparts.

Some wants are inborn and some are created by environment, in particular by the social milieu and by the local climate. Social conditioning of wants explains why primitive people often do not realize their needs. They simply lack example or knowledge. Yet the desire for knowledge conceived as curiosity is inborn.

It is beyond the scope of this book to attempt a detailed classification of wants which was given in particular by Lujo Brentano. We shall mention briefly only a few of the most important cases. We have to distinguish between :

(a) Essential (natural) desirable (progressive) and luxury (refined or over-refined) wants. This is an ambiguous genetic classification which corresponds exactly to the scheme dividing means into necessities, comforts and luxuries. Such a classification of wants was adopted by Roman law. Marshall is opposed to the development of artificial wants which—as he says—fritter away man's income without leaving a corresponding increase in efficiency.

(b) Some wants are lasting, for instance, desire for food ; some provisional, desire for a definite textbook ; some conditional, which depend upon environment or age. This implies that many wants must have a cultural background. Lasting wants can be persistent, like the desire for oxygen or recurrent, like the desire for a drink.

(c) Some wants are separate, such as a desire for an overcoat ; and some joint, if they represent a desire for goods of joint demand.

(d) Some wants are open or aggressive ; and some are dormant or latent. A latent want is reluctant to develop as demand. One of the main tasks of advertising is to stimulate such wants. Psychoanalysis takes into account these wants and stresses the danger of the continuous repression of unacknowledged wants. Besides, both of them try simultaneously to awaken subconscious needs by transforming them into wants.

(e) According to Cassel, who is followed by quite a few economists, in particular by Pesch, some wants are "individual"

when the individual bears the entire costs of the respective means while actualizing his demand; and some are "semi-collective" when the individual covers only a portion of the costs and the rest (mostly outlay on construction and maintenance of a durable good) is borne by the state or community. Finally, there are some "purely collective" wants when the use of the given good is free and the respective costs are entirely covered by means of taxation. Also, an immaterial want, desire for education for instance, can be differently satisfied in conformity with this scheme.

Cassel's approach to the concept of collective wants is not quite clear and satisfying. He considers the problem, not from the standpoint of the wants themselves, but rather cases for the mode of satisfying them. Consequently, it would be better to say that a good can be subject to different kinds of demand so that the respective want will be satisfied in different ways, namely :

1. A good can be subject to a purely individual effective demand. For instance, an individual buys a hat in conformity with his subjective scale of preferences and pays the entire price himself.

2. The good can be subject to a semi-collective demand when the individual has to pay part of the price for the given good or for the use of it so that good is considered by his subjective scale of preferences. For instance, one pays for a ticket to ride on a municipal transportation system or for the use of municipal water, provided, of course, that in both cases the individual does not pay the full costs.

3. A good can be subject to a purely collective demand. In this case, the individual develops only a demand but not an effective demand, because he gets different goods gratis from the state (such as a soldier's uniform), or freely uses a durable good since he is not expected to consider the given good from the standpoint of his rational subjective scale of preferences. Installations in a public garden and street lights for instance belong to this category. In all these cases, the individual may participate in costs only as a tax-payer. Also, services can be subject to a different method of satisfying the given want, for instance, the services of a housemaid versus the services of a municipal orchestra (when an entrance fee is paid) versus the services of a policeman.

Should we desire to reconsider this problem from the standpoint of the wants themselves, we could develop a refined scheme showing the following different types of wants, namely :

1. A collective want which is an unconscious need from the standpoint of an individual and thus, has to be satisfied in a

purely collective way, a desire for anti-aircraft defence, for instance; there can be a collective want which is simultaneously an individual conscious need (*i.e.*, passive want) so that it has to be satisfied also in a purely collective way. To this category normally belongs the desire for police protection.

2. A semi-active individual want which would not be actualized as demand if there were no semi-collective method of satisfying it. To this category often belongs the desire for education.

3. An individual active want which is satisfied in a purely individual way. We usually consider such a want as a "normal" phenomenon. Yet, from the genetic viewpoint one has to admit that progress is followed by an increase in collective wants.

From the viewpoint of this scheme, the national economy is a broader structure than the state because it takes into account the satisfaction of any kind of wants while the state cares only for the following wants :

1. Passive and semi-active individual wants when they are satisfied in a semi-collective and especially in a purely collective way.

2. Individual unconscious needs which are treated as purely collective wants and are satisfied in a purely collective way.

This supplementary scheme implies that in a capitalistic national economy the state holds the individual economies together, not only as a provider of community maturity, but also as a caretaker of some important individual needs and wants. Also, some minor social institutions, such as municipality, army, navy, university, etc., frequently play the same role only on a minor scale and perhaps in a local way.

There are six empirical laws which pertain directly to the wants themselves. There are some other laws which should be expressed in terms of subjective value in use but concern in part the theory of wants. The concepts of want, utility and subjective value in use are so closely linked with each other that even some noted scholars use them in a confusing way. Let us first consider the laws pertaining to the wants themselves. We must distinguish between the following six cases.

1. *The law of expansibility of wants*, which was elaborated by John Stuart Mill. This law implies that, while particular wants are satiable, wants as a whole are capable of indefinite expansion. Any human being has more wants than any non-human being, and a civilized man has more wants than a primitive man. John B. Clark says that human wants are not only multiplied but also spiritualized. The more spiritualized the want is, the greater is its expansibility.

2. *The law of variety of wants* which was introduced by Senior and is closely linked with the first law. This law reads as follows : "The more an individual satisfies his wants, the greater becomes his desire to diversify them." This is the reason why a civilized man develops a certain refinement of taste even in answering his organic needs by introducing different styles and by enriching his diet. Two important phenomena result from this tendency :

(a) The diversification of wants leads to a certain "intensified" use of the given means so that almost every good is transformed into a "good of civilization," in von Wieser's terminology, that is to say, it becomes able to satisfy many human wants, for instance, a hat satisfies simultaneously the desire for warmth, beauty, and distinction. Furthermore, it is essential that this process concerns all of the people and not be confined to a small privileged group. A chieftain of a primitive tribe knows how to use a hat for different purposes but may prevent any one else from imitating him. In general, a striking increase in the number of "goods of civilization" which we now witness is largely due to a gradual "education in wants" that is stressed by Edmund Whittaker.

(b) The more diversification of wants develops, the more important becomes differentiation of products or the desire for different elaborate brands, so that a commodity develops into a certain combination of physical product, intangible traits and services that go with it. In other words, the given good becomes heterogeneous in the broader sense. This means, however, development of monopolistic tendencies within the national economy. To be more exact, the differentiation of products often is not as much a result of civilization as of the deepening of culture. Civilization proper (or technological material development) leads to an increase in the production of standardized (homogeneous) goods. This represents, however, a dialectical process because such goods, on the one hand, show a high degree of uniformity especially when they can be reduced to a few marketable samples and thus favor unfree competition. On the other hand, they may favor free competition since in principle any manufacturer can easily produce a standardized good.

Summarizing, we can say that the socio-economic progress leads to an unfree competition in a dialectical way, namely :

(a) Diversification of wants implies differentiation of products and thus a "restricted" trade in brands.

(b) Standardization of products initially favors pure competition but gradually the degree of uniformity becomes so high that the commodity is transformed into a marketable sample

which favours monopolistic tendencies. Under advanced capitalistic conditions, an increase in technological productivity frequently means an increase in the diversification of wants and thus brings about all the above mentioned implications. Hermann Gossen stresses that human happiness is increased by the "variety of enjoyments." (1)

3. *The law of subordination of wants*, introduced by Thomas Hobbes and Jevons, says that an economizing individual at first satisfies his most essential wants which belong to the lowest layers of the hierarchy of wants. The gratification of each lower want placed on the subjective scale of preferences creates a desire for a more elaborate want. This is the reason why wants as a whole are subject to the laws of expansibility and variety. The normal development of the law of subordination of wants is usually violated by men who either are exempted from all the lower privations or are so spiritualized that they are able to defy it. For instance, there was Diogenes, who lived without clothing in a barrel, or a host of Christian monks. Even under normal conditions satisfaction of wants does not always expand according to the law of subordination. Sometimes gratification of a lower want does not lead to a vertical but to a horizontal expansion. This is the reason why appetizers are produced. In this case, we have to do with complementarity of wants based on a certain *consumptive relationship*.

4. *The law of recurrence of wants* : granted that a want has been satisfied it almost always has a tendency to return. So the desire for food declines and disappears as one meal after another is consumed, in a brief interval. Allow the passage of twenty-four hours, however, and the appetite will have returned. The desire may be quite as intense as before. There are but a very few wants which are constant, like the desire to maintain bodily heat. Otherwise, only the degree of recurrence which in principle is subjective is different. A great many people desire fish for dinner once a week, whereas they eat bread three times a day. Here a want becomes recurrent at a constant rate and at intervals, so that it becomes a "periodic" want. Wants for some goods have no definite time of recurrence. They may be dormant for a long period. However, should they be stimulated (not exactly awakened, since only needs are literally awakened), they become effective at brief intervals. Such wants are susceptible to advertising and public opinion, like for instance the desire to travel, or the desire to see a show.

1. Besides, the evolution of wants is not a mere matter of expansion, incorporating new wants along with the older ones, as Hobbes suggested, but involves fundamental alterations as old wants disappear and new ones arise in their place. This fact was elucidated by Edmund Whittaker.

5. *The law of underestimation of future wants*, introduced by John Locke and developed by Bohm-Bawerk, von Wieser, and Pigou. Since man's telescopic faculty is defective, he sees future wants on a diminished scale. Usually, the individual prefers a small pleasure at the present to a larger one in the future. Consequently, he discounts the full inherent subjective intensity which the future want will attain when it becomes actual. The more distant the day when the want is expected to materialize the greater is the deduction. Since the duration of human life is uncertain, one can never be sure that an anticipated want will become actual.

6. *The law of saturation of wants*, developed by the psychologist, G. Fechner and the philosopher, William Wundt, which says that when the application of the means proceeds in arithmetic progression, the saturation of the respective wants develops in a geometric progression because the desirability of the given means likewise decreases in geometric progression. This proposition shifts our attention to the theory of value.

CHAPTER VI

VALUE AND VALUATION

Value in Use is the result of the estimation of utility when man considers utility as a function of the quantity of the respective good, that is, in terms of scarcity. Usually one speaks of subjective value in use which is determined by the valuation of the subjective utility (or serviceability) of the given good on behalf of an economizing individual or an individual economy (mostly of consumptive character).

There is an objective value in use which is determined by the estimation of social utility on behalf of at least one social group representing the composite whole. Utility, in this case, is also brought into relation to quantity. Some economists, such as Mentor Bouniatian, define subjective value in use of the above mentioned kind as *desirability* of the respective good. The term "wantedness", advocated in particular by Veblen, is another term that could be used in this connection. It is better to use the term *desirability*, however, if one wishes to stress the intensity of the want which is satisfied by a certain amount of the given good. Consequently, *desirability* of a good from the standpoint of an individual is a function of its subjective utility as well as its subjective relative scarcity. In other words, the actual usefulness of the good is estimated by the individual in this case.

When an individual estimates the contribution made by the given good to his welfare, he considers the good's *desiredness* (Pigou used this term in another sense). *Desiredness* also represents a kind of subjective value in use. *Desiredness* becomes well-defined when the given good is estimated from the standpoint of the individual's welfare. For instance, the scarcity of oranges makes them more valuable to the man whose physician prescribed them as an essential part of his diet than to the man who does not have to eat them. Here the contribution of oranges to the individuals' welfare is very distinct.

The *desiredness* of a good may be determined by considering it not as an isolated phenomenon but from the standpoint of an individual's subjective scale of preferences. From such a viewpoint, *desiredness* increases when the given good becomes more complementary with regard to the other goods placed on the subjective scale of preferences. Furthermore, *desiredness* is affected directly by almost any major change in an individual's money income and in prices since it is sensitive to monetary

substitutability of all wanted goods. Desirability of a good is far less affected in such a case. If someone's money income decreases and he has to discontinue or at least to curtail consumption of some goods, he will estimate and compare the desiredness of each good.

The term "marginal utility" may be used when one appraises the subjective value in use of the last unit of the given stock of the respective commodity provided that one remembers that marginal utility does not express subjective utility itself, but only the result of its estimation, with regard to the quantity of the given good. The concept of marginal utility was introduced by the German economist Gossen, but seems to have been invented earlier by the Russian-German statistician, Daniel Bernoulli. The term marginal utility was, however, introduced by von Wieser. In the above mentioned sense, this concept was applied, for instance, by Bohm-Bawerk and Thomas Carver.

Marginal utility appears in two different ways :

1. If it is taken as a *static* concept it represents subjective value in use of the last actually given unit of a divisible good, conceived as a stock of interchangeable units.
2. If marginal utility is taken as a *dynamic* concept it pertains to the last increment of the given good or to the new unit which is to be added to the given supply. The concept of marginal utility is used by Richard Ely and Albert Meyers in the latter sense.

August Walras has identified marginal utility with "rarity." This makes possible another approach. We saw that the subjective utility of a good is superseded by subjective value in use when it is brought into relation with a given quantity of this good. In our present case, the other side of the problem is considered. When the scarcity of a good is brought into relation with the intensity of the respective want, this good gets a certain degree of rarity. In other words, a good which has no subjective utility can be scarce but not rare. From a scientific viewpoint, rarity is the estimation of scarcity with regard to subjective utility.

We have seen that in the real world, the economizing individual cares not only for desirability when he appraises a good but also for its desiredness. In other words, economic man may tend to estimate the given commodity from the standpoint of his subjective scale of preferences but not as an isolated means. With regard to this fact, Vilfredo Pareto has introduced the concept of a composite "ophelimity" which means, in our terminology, a *limited desiredness*. If, for instance, an individual appraises a cup of coffee which he drinks, its composite ophelimity depends

not only upon the subjective utility of coffee and the quantity of cups already consumed, but also upon the marginal utility of any good which in the opinion of the given individual has a high degree of complementarity. In this case, cream, sugar, pie, perhaps even the location of the restaurant where the coffee is consumed, will be taken into consideration. Besides, such an ophelimity is influenced indirectly by the marginal utility of the goods which the individual might consider as substitutes such as a cup of coffee at home, or a glass of beer at a nearby bar.

Some modern economists, such as Seligman, Spann, Bouniatian, Scitovsky, Knight and J.M. Clark speak of "social marginal utility". They practically mean the objective value in use of the marginal unit of a stock of interchangeable goods. The social utility of a good will be estimated with regard to its quantity if it is a good that satisfies a collective want. This estimation is carried out by a representative group in the name of the nation as a whole. For instance, the social desirability of a military airplane is co-determined by its social utility which depends upon the judgement of military experts. In this case, the criterion is non-economic.

The objective value in use may be likewise determined by estimating the objective utility of the good with regard to its quantity if this good especially satisfies an individual want. For instance, under normal conditions the objective desirability of a loaf of bread is very low, although its objective utility is very great. On the other hand, the objective utility of a genuine diamond is comparatively small but its objective value in use is great because such a good is very scarce. The estimation of the objective utility of a rare luxury is undertaken, not by the entire population, but by a small group of well-to-do people, whose effective demand for the good is inelastic. In general, most individuals remain indifferent to the valuation of a genuine diamond, while those who have the effective demand consider a diamond as a very valuable and rare commodity. Since a representative restricted group estimates the objective (practically the "group") utility of a genuine diamond very highly because of its scarcity, not only the objective value in use of this diamond but also its market price is considerably high. Only a national calamity (in particular a universal famine) can depreciate a genuine diamond because the former bearers of effective demand cease to assign to it a peculiar artificially high objective desirability. In recent years the objective utility of a genuine diamond has increased naturally since it is used also as a tool by the machine building industry.

The objective marginal desiredness of a good is determined by the contribution of the marginal unit of the given good to the

welfare of the nation. This necessarily is a functional phenomenon which cannot be determined unless ethical judgement is introduced. For instance, the social desiredness of a military airplane cannot be determined by the military experts alone and is not influenced primarily by the principle of scarcity. In the last analysis it will be determined by political development and the fundamental aspirations of the given nation, such as the necessity of resisting an imminent invasion or the desire for imperialistic expansion. There is no doubt that when the given national economy represents a unity, that is, is led by a centralized single will, in particular, a totalitarian state, the objective value in use in both of its forms (as desirability and as desiredness) becomes especially important. But this does not justify the assumption made by Oskar Morgenstern that there is no formation of objective use value of an economic good under normal capitalistic conditions.

Economists such as Spann who represent a functional organic approach, are inclined to maintain that objective value in use of any good is expressed by its realized price. In other words, according to them this price shows, under conditions of a money exchange economy, the "specific weight" of the given good on the national scale of preferences. The fact that objective value in use is determined frequently by a limited social group already restricts such a view. We shall, however, discuss this problem in another context.

It is often assumed that an economizing individual estimates the given good exclusively at its marginal utility, that is, at the subjective use value of its marginal unit. This is not exactly true from a realistic viewpoint. Even Robinson Crusoe will not estimate the given good exclusively at its marginal utility but may consider its desiredness as well as its labor costs in terms of foregone opportunity. Should he believe that the current tempo of his consumption with regard to the given good might force him to reproduce it in the near future, such a complex estimation will be quite unavoidable. On the contrary, if Robinson Crusoe appraises the given good as an isolated phenomenon and does not care for its reproduction, he may estimate this good exclusively at its marginal utility. The picture is more complex when an economizing individual acts within a money exchange economy. In this case, he often substitutes the subjective value in exchange for the marginal utility of the given good, that is, he appraises it at a derived marginal utility.

By *value in exchange*, in general, we understand, the result of estimation of the good's capacity to be exchanged for something; usually for another good or for a certain amount of money. Consequently, value in exchange rises when the relative potency

of the given good with regard to other economic goods increases. It is evident that no good can have an exchange value unless it is relatively scarce and bears objective utility. Carver defines this kind of value as the power of goods to command other goods in peaceful and voluntary exchange.

Value in exchange can be subjective or objective. Subjective value in exchange is the exchange value of the good from the standpoint of its possessor and is closely linked with subjective use value because it is determined by the marginal utility of another good which the given individual expects and wishes to obtain in exchange for it. This determination is, however, complex and can assume one of the following forms :

1. If the given good is *indivisible* in a physical sense, two cases may occur :

- (a) It can be exchanged only for one definite good. In this case, its subjective value in exchange will be determined by the marginal utility of the other good. Thus, marginal utility assumes a derived character, that is, the marginal utility of the given good does not come into consideration but the marginal utility of the good which can be obtained for it.
- (b) It could be exchanged as a single unit for, let us say, one of four goods possessing different marginal utilities. In such a case, its subjective value in exchange will be determined by the marginal utility of that good which possesses the greatest subjective value in use.

2. If the given good is *divisible*, that is it represents a stock of interchangeable units, two cases may occur again :

- (a) The subjective value in exchange of its unit and thus of the good itself will be determined in principle by the marginal utility of another good which can be obtained in exchange for the marginal unit of the given good.
- (b) If its units can be exchanged simultaneously for, let us say, three different goods, its subjective value in exchange will be determined by the marginal utility of that good which has the smallest marginal utility because it will be obtained for the marginal unit of the given good.

Very distinct is the subjective exchange value of money (regarded as a means of assignment) which increases when the

individual's money income decreases and vice versa. If for instance an individual's money income decreases, he will buy with the last unit of it a good which has a greater marginal utility for him, that is, which gratifies a want of a greater intensity. Progressive income tax is based on this idea which is obviously just. If, however, a rich man saves a big portion of his money income, his subjective value in exchange of money rises.

The question whether money itself has marginal utility is still controversial. For instance, Ely, Irving Fisher, and Charles Bullock, answer this question affirmatively. On the other hand, we share the opinion of Lewis Haney that money as a means of assignment, in principle, has no subjective use value. For this reason, it is normally estimated at its subjective value in exchange. If a rich man on a trip in a primitive country becomes "short of money", the scarcity of means of assignment restricts his spending power and thus forces him to acquire only those goods which under given abnormal conditions, possess a great subjective use value. This implies that the subjective exchange value of money has risen. In general a means of assignment normally has no direct marginal utility because it is only indirectly useful.

Yet, there are some exceptional cases when one can speak of an eventual marginal utility of money. If for instance somebody has at his disposal only a few minutes to make two calls and has but two dimes which cannot be replaced, each coin will have a direct desirability of a high degree which is not derived from the importance of the given calls. Should he simultaneously possess one dollar bill that cannot be used for a telephone call, it would be better to say that the given coins and not the money as such acquired direct subjective use value although this is not strictly necessary since the given banknote ceased to be a means of assignment under the given assumptions. On the other hand, money constantly is subjected to the principle of the marginal rate of substitution. One will tend to give a decreasing amount of money for the last increment of the continuously purchased good, since usually the additional increase in the amount of the given good lowers its marginal utility, and thus makes it too expensive with regard to other goods which are wanted by the individual because their marginal utilities necessarily are in a certain definite ratio in respect to the marginal utility of the good in question. Such a ratio is disturbed and other desired goods are discriminated against in a negative sense if one continues to buy a good at a certain price in spite of its decreasing subjective use value. Furthermore, there will be complete disagreement between the price paid and the hedonic index of the good under consideration that is placed on the individual's scale of preferences.

Subjective value in exchange (as already mentioned) frequently is substituted for subjective value in use. If an individual gets a box of oranges in an isolated village, the marginal utility of the oranges will be very low, especially if he has to remove a good many of them as discommodities. If he can sell or exchange them, only a portion of the oranges will be estimated at subjective value in use which for this reason will increase. The rest will be estimated at subjective value in exchange which can be high. This proposition implies that it is easier to have a surplus when the given individual or the given community is not isolated. Besides, in such a case, production can expand much easier.

The fact that the subjective value in exchange of a good is determined by a derived utility or in the terminology of Jevons, by a "non-direct" utility, does not confirm the standpoint of E.F. Schroeder that the subjective value (even if we disregard the subjective use value of an isolated good) is necessarily based on a direct comparison of marginal utilities of at least two goods. Yet, it is true that there will be frequently a comparison between two hedonic indices. So if an individual possesses and uses a hammer, he hardly will assign a subjective value in exchange to it or care for the marginal utility of another good. Should he eventually be tempted to exchange the hammer for another good, he will be interested in comparing both respective marginal utilities. If, however, the given individual possesses several hammers which he is unable to use but wants to exchange, he will assign to them only a derived marginal utility because they will have no use value. Here no direct comparison between subjective values is possible; yet, we come to an interesting conclusion that when a subjective value in exchange is assigned to a good which itself has no subjective use value, the marginal utilities of other goods for which the given good is exchanged are compared with each other. So, if an individual is willing to exchange his hammer which he personally cannot use for fifty oranges or one hundred apples, he assigns to an orange a hedonic index which is twice as big as that assigned to an apple.

Objective value in exchange can be defined as the market value of the given good or its "vendibility", in Veblen's terminology. This value is not determined by the possessor of the good, but indicates its objective exchange potency in respect to other goods. When market value is expressed in terms of money that has a more or less stable purchasing power, it can be defined as the "objectively expected price" of the respective good. Should the objective exchange value of money be very fluid, this definition will remain valid, but the picture will be rather obscure. Under real dynamic conditions, there can be easily a discrepancy between

market value and realized price because the first phenomenon is of a distinct "a-priori" bias.

Still Aristotle realized that objective exchange value exists apart from market price and prior to any particular act of exchange. A generally accepted market value of a commodity appearing on the price tag in most store windows can eventually be void if the given good becomes unsalable.

One should not confuse market value with objective use value which shows the place assigned to the given good on the objective scale of preferences. Both kinds of objective value frequently coincide; yet they are different for the following reasons: (1) an objective value in use often results from the estimation of *social* utility. A good, however, that bears this kind of utility, such as a military airplane, normally has hardly any market value, (2) if the objective utility of a good, for example bread, is estimated, the resulting objective use value and market value will practically be equal; yet in principle they will express two different phenomena because in the first case one appraises the objective desirability of the given good and in the second case its objective exchange potency with regard to other goods.

Bargaining means that a subjectively expected price, which reflects the subjectively fixed exchange value, is named by the seller although he knows the current market value. The realized price will usually lie between this subjectively expected price and the actual market value, that is, the objectively expected price. A radical overruling of objective exchange value is almost impossible since it expresses, in a sense, the current "market opinion." Bargaining persists, however, now in civilized countries in the competitive trade in antiques and rugs. Yet, only a non-competitive seller can frequently enforce his subjectively fixed exchange value by transforming it into market value since he shapes the forced market opinion. Besides, he brings about an equilibrium between market value and the realized market price. Otherwise, the different kinds of price can easily deviate from each other. We shall return to this problem in another context.

Valuation and choice should not be identified because the process of valuation may pertain to an isolated commodity. Unfortunately, this fact is not realized universally. Some economists, including Knight, Haney and Shroeder, say that every valuation is a comparison. According to them, the idea of value is meaningless except in relation to alternatives. We have already seen that desirability (or subjective value in use) is determined when the subjective utility of the good is brought into relation with its quantity. Consequently, the estimation of the desirability of a good is a valuation without being a process of

choice making. This case is very clear if we consider the valuation of a single barrel of water possessed by a caravan lost in a desert. Under such conditions there can be no choice whatsoever and almost no probability that the rarity of water could be less acute. On the other hand, the estimation of desiredness of a good is normally, although not necessarily, a problem of choice. When one tries to find out what the given unit of a good contributes to his welfare, he has to compare its desirability with that of any other good unless we take an extreme case when a man's life depends entirely upon possession of a single good, such as oxygen in a coal mine.

Schroeder's contention that subjective value in use is a proportion of marginal utility A to marginal utility B should be rejected. Of course, when one assigns a hedonic index to A, one in principle intends to compare it with a hedonic index of another good, because both of them are placed on the subjective scale of preferences. Yet, one can eventually desire to evaluate in an isolated way a single good. For instance, if the given individual is ready to pay two dollars for a hedonic unit and assigns a hedonic index ten to a certain good, it implies that he is willing to pay twenty dollars for this good without comparing it with any other commodity. Frederick Taussig also means the same when he maintains that in a money exchange economy a price which one is willing to pay for an economic good is the "economic measure" of its utility or in our terminology, its desirability. Likewise market value does not imply necessarily that the given good is compared with another definite good. For instance, it is sufficient to note that good A costs ten dollars without considering the fact that the market value of the good B is five dollars.

Professor Boulding defines hedonic unit as "util" (the term was introduced previously by Irving Fisher) and declares that subjective value in use (in our terminology) cannot be measured exactly but only approximately as an "intensive magnitude" which must be expressed quantitatively in terms of a connected "extensive magnitude : " here a "util" or price. This method is used also in other cases, so for instance brightness which is intensive magnitude, can be measured in terms of candles which represent an extensive magnitude.

In some cases, valuation is a distinct choice making process. The following scheme of propositions shows three possible cases :

1. An individual develops a certain subjective scale of preferences which classifies every wanted good only with reference to its subjective utility, represented by a certain hedonic index. Such a scheme practically never is developed because in the last analysis it gives a rather vague estimation of the wants of an

individual which are expected to be satisfied with the respective goods. Consequently, the individual might as well develop a separate abstract subjective hierarchy of wants classified with regard to their generic significance. Besides there is real estimation of a good only when the individual takes into account its scarcity. It is not sufficient to state that a chair, in principle, is more important than a table, or, in other words, that the desire for sitting is more important than the desire for writing. Yet, such a vague subjective appraisal could be made.

2. An individual develops a subjective scale of preferences of a more scientific order when the scale estimates any wanted good normally with respect to its marginal utility although the total utility of a divisible good treated as an "item" could also come into consideration. In the case of marginal utility not only the generic importance of a want is considered, but also its intensity, since the increase in the quantity of a good usually diminishes the expected satisfaction. Each good is represented by a certain subjective hedonic index which may take into account also the quality of the appraised desired good. Goods of the same kind but of different quality should be treated practically as different goods. There is only one scale of preferences of this kind at the given moment, which is strictly subjective and dynamic because it can instantly change. We assume that this scale is very sensitive to any change in the mood of the given individual, in the size of his money income, and in his taste which can be affected by advertising. One can say that the mind of the buyer or consumer is never exactly stable. The very fact that on the way home people often regret purchases they have made, is evidence that their scales of preferences are rather flexible. Since, in reality, such a scale based on subjective value in use and expressed in hedonic units shows normally the specific weight of each wanted good taken in a definite amount in respect to a definite intended expenditure, which has to be made in a definite place and at a definite time, it practically implies that the respective subjective values in use are compared in terms of the prices of the given goods. For this reason, each given hedonic index tends to coincide with the price which the individual agrees and rationally expects to pay for the respective wanted good. For instance, he may assign hedonic index ten to a hat and hedonic index five to a pair of shoes when he expects to acquire them for ten dollars and five dollars respectively. If his expectations are correct, his subjective scale of preferences will be observed fully and he will get maximum satisfaction because in each case one dollar will acquire just the same amount of hedonic units. We shall return to this problem later.

3. An individual develops a subjective map of demand schedules pertaining to different goods which are expressed in

terms of quantities and prices. Here two cases are possible. When such a map is very subjective, it merely shows how the subjective valuation of different wanted goods changes in terms of quantities when there is a change in the respective prices. For instance, an individual may be willing to buy one pair of shoes for twenty five dollars if he has no shoes; the second pair for ten dollars; a fourth pair for only three dollars, etc. This schedule developed only for one good practically shows the diminishing subjective value in use of this good if it is acquired consecutively. Because they represent an inner experience, one can hardly compare schedules of this kind unless they are developed by the same individual. Even the money in which the prices are expressed has subjective value in exchange which can be different for each individual at the given moment. It is possible, however, to develop a subjective schedule of demand which would be less personal. Also, such a schedule shows the amount of a commodity which will be taken by the given individual at various prices within a limited time. Yet, it disregards the subjective value in exchange of money which it considers as completely neutral. Consequently, the subjective schedules of demand can in this case be compared even if they are developed by two different individuals.

There are five laws concerning marginal utility, namely :

1. *The law of diminishing marginal utility.* This refers to a decrease in the subjective value in use of the marginal unit of the given good the more its units are consumed in succession. This law was introduced in its modern form by Hermann Gossen and was accepted by all the marginalist economists such as Jevons, von Wieser, and Marshall.

2. *The law of increasing marginal utility.* This law was introduced by the ancient Greek philosopher Epicurus. In economic theory, it is advocated in a somewhat different form by quite a few modern economists, such as von Wieser, Marshall, J.B. Clark, Wicksteed, Simiand, to name but a few. This law does not contradict the above mentioned "first law of Gossen", but rather analyzes a case which deviates from it.

3. *The law of stagnating marginal utility.* This law was introduced by Keynes and considers a case which was disregarded by the two preceding laws.

4. *The law of derived marginal utility.* This principle is defined as "the law of the formation of the subjective value in use in a broken line", if it is applied to a consumption good which is productively related to some other goods. Its main advocates are Bohm-Bawerk and von-Wieser.

5. *The law of interdependence of marginal utility and the respective labour costs.* This principle was developed by Michael Tugan-Baranovsky, though the idea originated with Gossen. Also, M. Partaleoen and Liefmann made some contributions to this principle.

The law of diminishing marginal utility defined in Europe usually as "the first law of Gossen" can be reduced to the following propositions.

1. As the amount of a good acquired by the consumer for final consumption increases, its marginal utility decreases. This is very evident when the respective good is physically indivisible, such as eye glasses of the same kind. Should the good be divisible, its units will be interchangeable under normal assumptions so that when the amount of this good increases, the desirability of each unit declines, because no unit of the stock can have either a greater or smaller subjective value in use than the last or marginal unit. For this reason, it is not necessary to assume that just the last added unit is the marginal unit. Any unit can play this role and change the valuation when it is lost, although, of course, it is desirable to speak always in terms of the last added unit. For instance, if the given stock of apples is composed of ten units and the fifth apple is lost, the last added or tenth apple will become more valuable, since it will become the ninth and for this reason will change the valuation of any other unit accordingly. Yet, the whole change in estimation was caused by the loss of the fifth apple which thus played the role of the last unit. Bucharin, who was the leading Soviet economist in Lenin's time, maintained that the first law of Gossen symbolizes the psychology of a losing, not a producing individual which he believed to be typical of the degenerating capitalistic society. This is an exaggeration because Gossen's law does not take into account the valuation of a man who is losing his stock without being able to replenish it, but only says that the desirability of a good does not depend entirely upon its subjective utility but also upon its quantity. This law explains why an idle rich person often is bored with life which is especially stressed by Philip Wicksteed.

2. The first law of Gossen pertains normally to a consumption good which is estimated at the subjective value in use of its marginal unit. If one substitutes subjective value in exchange for the declining desirability, the good usually becomes more valuable. This somewhat decreases the pressure of Gossen's law of saturation. Yet, the law remains valid because an increase in stock means that its last unit will be exchanged for another commodity which will have a lower marginal utility. Such a development is normal but in real life can eventually be offset for a short duration by a simultaneous intensification of the given

individual's total demand. This occurs, for instance, when he gets some new acute desires.

3. The first law of Gossen is based on Weber-Fechner's "law of response" which says that when consumption of a good increases in arithmetical progression, its desirability declines in geometric progression because the saturation of the respective want likewise increases in the latter progression. There is only one difference; namely, Gossen speaks of a good slated for consumption instead of a good which is being consumed. Both approaches are identical in principle. Besides, it is evident that the first law of Gossen can be applied, not only to the marginal utility, but also to the good's composite ophelimity and rarity, since they likewise change inversely in respect to the quantity of the given commodity. If one applies rationally Gossen's approach, he can say that the pleasure derived from any good estimated at its current marginal utility largely depends upon the tempo of consumption, namely :

1. If a perishable good is stored for immediate consumption, the quicker the tempo of consumption, the less it depreciates. Here the pressure of Gossen's law is less acute.

2. If the given good is taken in the process of its final consumption, the quicker the tempo, the more it is subjected to the first law of Gossen. If, for instance, one consumes one cup of coffee after another without a considerable interval, the depreciation of coffee will be great.

The first law of Gossen should not be considered as a strictly universal and uniform rule because Fechner's law on which it is based depends upon the nature of the good which is being consumed. Even if we disregard some particular cases, neglected by Gossen's law and taken into account by some other major laws concerning marginal utility, we must acknowledge that its validity depends upon the character of the estimated good and that this law is closely linked with the problem of elasticity of demand which usually is considered as a measure of responsiveness of consumer's purchases to price changes. All those goods which command either an inelastic or at least a moderately elastic demand usually are particularly liable to Gossen's first law because the wants which these goods satisfy are very satiable although they actualize very essential physical needs. This was realized by the ancient British economist, Gregory King, who maintained that when the amount of a good which satisfies a very essential physical want decreases in arithmetical progression, its desirability rises in geometric progression and its price likewise increases in geometric progression. When, for instance, there is a famine the desire for food develops as an obsession and

the demand for it is more inelastic than it ought to be from a logical viewpoint. If the given good is not vital but still essential, its scarcity will raise its desirability, but its price will not rise over-proportionately. The desirability of a good, such as bread, either is very high or very low in a normal household. In other words, it is extremely sensitive to any change in amount because the want which it satisfies is very essential but quickly satiable.

Instead of speaking of a change in the amount of goods, one could talk about a change in effective demand. The result would be the same because an increase in demand increases the scarcity of a good if its amount cannot be increased quickly. If a good satisfying an essential material want can also gratify some less important wants, its price will rise over-proportionately at first when the amount of the good decreases for a long duration since the pressure of Gossen's law will be acute. But later if its shortage is less grave, its price will decline and rise again. These later movements of price will be moderate however. The reason for them is the ensuing saturation of the main want and the mitigating influence of the minor wants which still have to be gratified.

It is evident that the more an economizing individual is isolated and the more perishable are the goods that he accumulates the stronger he feels the pressure of the law of diminishing marginal utility. In the first case, there is no subjective value in exchange which could be substituted and in the second case, the tempo of consumption is comparatively too slow.

5. Some economists, for example Jevons, correctly say that in real life the marginal utility of a good which is not exactly perishable, but can be stored, does not depend entirely upon its actual quantity but also upon the probability that there will be a sufficient amount in the near future. If the quantity of a good is great, its desirability should be very low. This will not be the case, however, if the individual realizes that he cannot replenish the stock at his own volition. Also, if an ocean liner possessing a limited quantity of water is late, it will revise the desirability of water which normally may be very low. This approach is very typical of Jevons because, according to him, the marginal utility of a good is measured by the urgency of desire for a greater quantity of that good or for a new increment. This desire is influenced by the probability that the actual amount may be insufficient as soon as a shortage in the supply occurs. Consequently, the approach of Jevons is strictly dynamic. If a rationed good is stored up and the tempo of its consumption is very quick, the pressure of Gossen's law is so acute that the good is estimated almost from the beginning, not at its actual marginal utility but at a "future" and thus a higher use value. So, at the

beginning of the first week, rationed sugar can be estimated at a future higher marginal utility which will be "actual" in the fourth week. The assumption here is that sugar cannot be replenished in the meantime. This case was elucidated by Wicksell and is akin to that discussed by Jevons.

6. Most goods can be used by an individual only as long as they really are desired. As soon as the "point of saturation" is passed, the given good develops into a discommodity, that is, becomes a bearer of disutility. Here we have the law of increasing marginal disutility, while at the point of saturation the given good bears inutility.

The second law pertaining to marginal utility maintains that sometimes when the amount of the respective good increases, its marginal utility likewise increases. This depends upon the nature of the want which is satisfied by the given good. The law of increasing marginal utility can be reduced to the following propositions :

1. Von Wieser states in a rather pessimistic way that no sound want is insatiable except the desire for knowledge which is insatiable only in the sense that it tends to expand in new directions. Otherwise, there are only degenerate wants that sometimes are inflated to immeasurable proportions and in any case require a constant increase in refinement. Sometimes under such conditions the want itself is not exactly insatiable but the point of its saturation in the general scale of satisfactions is very high. Gossen's law of saturation is invalid with respect to all those goods which satisfy wants connected with vanity and desire for power. The "unhealthy fashion" (in Veblen's terminology, "conspicuous waste") and chaotic accumulation of treasures normally are generated by this kind of wants. The assertion of von Wieser certainly is correct. The most conspicuous deviation from the first law of Gossen which goes in a reverse direction is set just by the degenerate and abnormally over-refined wants satisfied by material goods. Yet, one must be cautious in making such a conclusion because, as Wicksteed correctly says :

Intoxication may be extremely delightful and in principle insatiable. Yet the more habitually a man drinks, the more pain it gives him to be sober, so that in this case, the increasing pleasure is confronted with increasing pain and can be even offset by it.

Von Wieser rather underestimates the expansibility of spiritual wants. Still Epicurus disclosed that an intensive desire for an immaterial good hardly reaches the point of saturation because gratification of such a desire is never transformed into a real pain. One can over-eat and over-sleep but one can never be

sincerely fed up with knowledge which tends to expand not only in new directions, as von Wieser assumes, but also is constantly deepened in the field of man's primary interest. J.B. Clark says that the intellectual growth of a man is infinite. An immaterial good, such as knowledge or skill, can remain sterile for a while but never will become a real discommodity. Even the process of acquiring knowledge as such never can stand under pressure of the law of diminishing marginal utility, only the physical conditions on which this process is based, for instance, reading is subject to this law. In other words, one can be physically tired of reading a text book but not of learning. In a somewhat general way the same idea was expressed by Wicksteed.

2. The accumulation of treasures and sometimes of less valuable or less universally desired goods, such as postage stamps or cartoons is not always caused by the presence of a degenerate want but results from some higher stimuli, such as the love of fine arts, research or charity. Ely maintains correctly that familiarity with good books or good pictures may increase the pleasure that an individual finds in such articles and so may induce him to collect them. Any increment of good which is treated as a part of a collection is more cherished or possesses a greater subjective value in use than the previous one. When a good becomes a part of a collection, its subjective utility is increased a great deal for psychological reasons and the good itself assumes the character of an intermediate good. This is not the only case when the estimation of a utility and thus value is largely determined by psychology. For instance, an Indian blanket bears a greater utility of any kind and consequently a higher market value than a similar blanket produced by an American factory. The reason is that man is inclined to treat a product of another age or another race as an intermediate good which bears a certain spiritual value and often becomes subject to the law of increasing marginal utility. This fact was realized still by Tertullian. Although any good which is a constituent of a collection never is liable to the first law of Gossen, one cannot say the same about the group to which the collected goods belong. For instance, paintings can depreciate because only a small portion of them is collected. One can rarely predict at once that a painting just drawn will some day be subject to the law of increasing marginal utility.

3. Marshall indicated correctly that when the actual amount of the given good is so small that it is insufficient to meet a certain special want, its increase will raise the desirability of the good, provided that it will enable the individual to attain the desired end. Thus, for instance, any one would derive less pleasure in proportion from ten pieces of wall paper than from

twelve if the latter would, and the former would not, cover the whole of the walls of his room.

The law of stagnating marginal utility, as already mentioned, was introduced by Lord Keynes. He cites some cases when an increase in the amount of a durable consumption good or services does not exercise any influence upon their desirability. In other words, in such a case, under capitalism, technological productivity is not restricted by the social limit of profitability. Keynes says, for instance, that two pyramids or two Masses for the dead do not influence their mutual valuation while the construction of a second railway line between two cities will depreciate both of them. He treats gold mining (which he defines as digging holes in the ground) in the same way by declaring that an increase in gold production cannot diminish the marginal utility of the gold because the increased stock of gold is subject to immediate immobilization as latent or hoarded purchasing power. On the other hand, even an immobilization of an additional amount of a regular durable consumption good, a lamp for instance, normally affects the valuation of this good because it influences its potential supply and thus has a psychological effect at least. One must agree with Keynes that normally an increase in the amount of pyramids or palaces will not affect their desirability. It can, however, under some exceptional conditions, lower their objective desiredness or raise their subjective desirability. Both cases will happen simultaneously if a ruler starts to collect palaces by means of excessive taxation.

The fourth law pertaining to marginal utility says that sometimes a good is estimated, not at its own marginal utility, but at a derived one. Derived marginal utility becomes apparent in the following cases :

1. When a good produced for one's own consumption begins to be exchanged for some other goods directly or indirectly through money, its marginal utility is replaced by subjective value in exchange and consequently, in the last analysis, is substituted for the marginal utility of another more wanted good which will raise the subjective use value of the given good.

2. When a good can be replaced easily and continuously by several substitutive goods, it becomes practically "more abundant" and is estimated, not at its own marginal utility, but at the actual subjective value in use of that close substitute which has the comparatively lowest marginal utility provided that it is available. Thus, increasing the amount of a potent close substitute usually lowers the marginal utility of a good. If there is only one substitute which has a higher subjective use value than the good itself, the given good will be estimated at its own margi-

nal utility. When the amount of a good which can be substituted decreases, its price will rise provided that the respective close substitute responds to this price change. Yet, the price rise will never be so acute as in the case of the absence of substitutive goods.

3. Quite a few factors of production which are *secondary* factors, such as a single raw material (in particular a metal) or a single machine, are estimated at the marginal utility of their marginal products conceived as consumption goods. Normally, valuation of iron ore depends upon the marginal utility of its cheapest product which still commands effective demand so that the estimation of any more valuable product belonging to the iron stem is influenced by the valuation of this least valuable "production relative". Bohm Bawerk defines this case as the "formation of the subjective value in use in a broken line." Yet, it may happen under abnormal conditions that the marginal iron product, for instance, an iron stove as well as other finished iron goods are overproduced while an iron plate (a semifinished product) is comparatively scarce and bears a great marginal utility. In such a case, iron ore will not depreciate either. Here a great desirability of a semi-finished product is decisive for the valuation of the iron ore. This can, happen only for a short duration, however, because otherwise the finished iron goods will be scrapped and the iron plates will become more abundant and thus cheaper.

A secondary factor of production is estimated at derived marginal utility because it is only a means, never an end in itself. Yet, only the subjective utility of the factor is a derived phenomenon, not its scarcity. The principle of scarcity is not affected by the above discussed development. On the contrary, the scarcity of iron ore practically is decisive for its valuation, but this does not change our norm because when iron ore is scarce its marginal product will possess a great marginal utility and vice versa. One cannot produce cheap iron goods when iron ore is scarce and expensive.

When we say "marginal product", we consider the case from the standpoint of the national economy as a whole and usually mean the marginal product in a classical sense. Yet, in real life, there are two kinds of "marginal product" which come into consideration in our present context, namely :

1. *The least wanted product* (in the usual Marginalistic or Classical sense). This product satisfies the least important among the respective wants for which people are willing to pay the lowest price. One might say that such a product has the lowest objective value in use.

2. *The relatively least wanted product* which is artificially marginal. This product is wanted by a small number of persons whose effective demand is so powerful that they can afford to pay a comparatively high price. Should we consider the same problem from the standpoint of price formation we shall have to distinguish between the two following cases :

1. If there is free competition at least with regard to the finished goods and the respective secondary factor of production is comparatively common, its marginal product will be the least wanted product or the "product of the lower margin." In other words, this product will be the cheapest article and will cheapen the production of any productively related good by cheapening the factor itself. For instance, if an iron stove is the least wanted iron product, it will set the upper limit of the iron price. Should the price of the iron be raised above this limit there will be no possibility of producing an iron stove, yet the producers of iron ore cannot disregard the fact that under normal conditions there still is an effective demand on the part of buyers for such an iron product and consequently, they will price the iron ore accordingly. Thus, the iron stove will cheapen any iron product.

2. (The reverse case). If the respective productive agent, in particular a raw material, is relatively monopolized and not very common, and so is able to command a powerful and restricted demand, its marginal product will be the relatively least wanted product or the "product of the upper margin." When the producer can employ the entire amount of the given secondary factor of production in making an item which bears a comparatively high price, he will eliminate all less profitable uses so that the marginal product will be selected artificially and will make the given factor more expensive. We speak about an "upper marginal product" because some still more expensive products will be produced from the given factor so that there will be competition with regard to this factor even if the marginal buyer is chosen artificially. An example for this case is special glass for elaborate optical instruments. Here Bohm-Bawerk's law still retains its validity although it is applied in an artificial institutionally determined manner.

Before we turn to our discussion of the fifth law pertaining to marginal utility, we must clarify the concept of *total utility*. By total utility, we understand the subjective value in use of the entire stock of the given good and not its market value in terms of money or the subjective use value of its interchangeable units. Total utility can be equal to zero only when the given good is considered by the given individual as a bearer of inutility, that is, if he is indifferent to it, but not when the respective marginal utility falls to zero. Any new increment of the given commodity

changes its total utility but never determines directly this kind of subjective value in use because only marginal utility is directly affected by such a change.

The question of how to estimate total utility of a good is controversial. There are two known approaches to this problem, namely :

1. The total utility of a good is the sum of successive marginal utilities. In other words, total utility arises from the integration of consecutive marginal utilities. Since, under normal conditions, most material goods are subjected to the first law of Gossen, total utility increases at a diminishing rate when the respective stock grows.

Should the given commodity be under pressure of the law of increasing marginal utility, its total utility will grow at an increasing rate. If the given good is liable to the law of stagnating marginal utility its total utility will increase at constant rate. When the given commodity bears disutility, its total utility will decrease at an increasing rate. This approach is advocated by Marshall, Bohm Bawerk, Schumpeter, Hans Peter, and most modern economists, because it takes into account the fact that behind the scene successive units of a stock possess different degrees of desirability. Some writers define this method of estimating total utility as "an economic integration of utility." In our opinion, it would be better to say integration of marginal utility.

2. Total utility is a multiple of the marginal utility of the given good. Consequently, one gets the total utility of a commodity by counting all units of the given stock uniformly at its marginal utility. When a stock consists of ten interchangeable units, each with the marginal utility n , the composite value of these units and thus total utility will equal $10n$. This approach is advocated by J.B. Clark, and especially by von Wieser who calls it "the fundamental law of economic computation of utility," (not integration as in the first case.)

Von Wieser insists that his standpoint is more realistic because any householder measures all his purchases with regard to actual marginal utility. If he buys several loaves of bread, for instance, he will never appraise one loaf higher than any other or pay more for any loaf than is justified by the valuation of the last increment. At first sight von Wieser's approach appears very convincing, yet it is not always valid. It certainly is true that every consumer buys each good with regard to its marginal utility. He acts in a similar way when he appraises different goods of the same kind (for instance, several identical loaves

of rye bread which are purchased for immediate consumption). In all of these cases, however, he does not care for the valuation of a genuine, more or less lasting stock. His mode of estimating changes as soon as he starts to consider the various units of the respective divisible good as an accumulated stock which has to serve his future gradual consumption. In such a case, he refuses, at least subconsciously, to estimate any unit at a low marginal utility since he fears that the given good might become more valuable if the stock decreases. This fact becomes especially clear when there is a chance that the given stock cannot be replenished. Take, for instance, a single householder who thinks that he will have to live on the given stock of food in the event of a sudden sickness, or the conduct of sailors on the high seas.

In some cases, von Wieser's approach can lead to a nonsensical situation as was stressed by Vileugels. Let us assume, for instance, that a farmer possesses a large stock of wood planks, which he intends to use some day for construction and that wood is so plentiful in the region that it is considered as a free good. Under such conditions, the marginal utility of the wood planks would be equal to zero. Since the farmer does not want them right away and theoretically could get new wooden planks at any time, it would be permissible to use some planks as fuel since they are temporarily valueless. As soon as the stock begins to decrease, however, the desirability of planks rises, much above the point of zero, because the farmer realizes that he will have to devote effort to replenishing his stock if he intends to build a barn. This development proves clearly that the total utility of the given stock never was zero but only its marginal utility was nil. Consequently, it might be a mistake not to economize in the use of the planks which could become necessary for eventual construction. Besides, it is quite possible that the farmer might raise the marginal utility of the planks by exchanging some of them for some other goods. Those planks which would be exchanged would get a considerable subjective value in exchange, that is, a derived marginal utility and the rest of the stock would have acquired a certain desirability above the zero point.

3. It is evident that total utility estimated according to the first approach is considerably greater than in the second case when it is based on the desirability of the marginal unit, provided, of course, that the given good is subjected to the first law of Gossen. In other words, integration of marginal utility normally gives a greater value than its computation.

The difference between the two methods of estimating *total utility* can be illustrated as follows :

Diminishing marginal utility of the given good :
(in hedonic units)

4	
3	$1 \times 4 = 4$ total utility gained through "computation."
2	
1	
10	total utility as <i>integrated</i> marginal utility.

Total utility becomes especially conspicuous when the given good is physically indivisible. If one exchanges a book or an automobile, one usually does not deal with their marginal utilities, since they do not consist of separate salable units, but treats them as distinct entities. This also is true of aggregates which consist of homogeneous goods that could permit separate disposition, provided that they are treated as distinct entities or "indivisible stores." One never should forget that indivisibility in the economic sense is not limited to physically indivisible goods but may be created by economic subjects who prefer to treat their stocks as entities. A monopolist acts in this way if he refuses to sell his stock except as a whole. This fact was stressed especially by Jevons and von Wieser. One should not assume, however, that indivisible goods must be estimated at their total utility. Sometimes their total utility is not equal to their marginal utility. One can, for instance, possess simultaneously several houses, motor cars and even eye glasses of the same kind. Consequently, all of these in principle indivisible goods may become subject to the first law of Gossen. Of course, if we take an isolated automobile, its total and marginal utilities will necessarily coincide. Yet, we are allowed to speak of an eventual discrepancy between the marginal utility and the total utility of a physically indivisible good just as we are permitted to say that sometimes some divisible aggregates are treated as indivisible wholes.

Bohm Bawerk stresses the fact that the valuation of separate units of an aggregate composed of several homogeneous goods should not be confused with the valuation of constituents of an aggregate which is composed of complementary goods. Should the latter aggregate consist entirely of goods which are specific and irreplaceable, each good must be estimated equally at the subjective value in use of the entire combination which practically represents a single composite good. It is evident that total utility and marginal utility of such an aggregate are identical and are determined by the usefulness of the given combination to its possessor. Since a constituent of an aggregate, composed of replaceable complementary goods is non-specific, that is, can be used somewhere else, its desirability cannot fall below its own marginal utility in another use but usually will be moving toward its upper limit, namely, its marginal desirability plus the difference

between the subjective use value of the entire given combination minus the sum of the marginal utilities of all constituents which are non-specific. We can illustrate this fact as follows :

n = subjective value in use of the entire combination of the given *complementary* goods expressed in terms of hedonic units.

<i>Goods</i>	<i>Marginal utility</i>	
A	m	Subjective value in use of the good
B	m^1	A will lie between the following limits.
C	m^2	
	<i>Lower limit</i>	<i>Upper limit</i>
	m	$m+n-(m+m^1+m^2)$

Our assumption here is that all complementary goods are non-specific and that the value of their combination is bigger than the sum of their marginal utilities. Should there be still a fourth good which is specific, the "remainder" or the difference between the value of entire combination and the sum of the marginal utilities of the given non-specific goods has to be imputed to the specific complementary good.

Professor Hayek who means only productive complementary goods stresses the fact that when their combination depreciates as such, any constituent which is specific or can be used for comparatively few purposes will be affected far more than other constituents that are of a more general usefulness.

The fifth and last proposition pertaining to the laws of subjective value in use brings marginal utility into relationships with labor costs. The importance of such a relationship is realized by most consistent representatives of the marginalistic approach, like Gossen, Bohm-Bawerk, and Liefmann.

Yet, the most daring formulation of this proposition was made by Tugan-Baranovsky who declared that marginal utility of a good is a function of respective labor costs. In other words, he tried to prove that marginal utilities of two goods are proportional to their labor costs (or "absolute costs"). Tugan maintained that when good B requires twice as much time in order to be produced as good A, its marginal utility will be twice as great as that of A. If, in two hours, one can produce two units of A and one unit of B while both are equally desired, (that is, both get the same hedonic index 10), one will start to produce B only when the continuous production of A will decrease its marginal utility to 5, because in such a case, one will get 10 hedonic units of satisfaction from each product, namely ten from B, since it was not produced before or two five's from A. The formula will assume the following shape :

$$(\text{one unit}) B/A = 2/1 (\text{labor costs}) = 10/5 (\text{marginal utilities})$$

We can criticize the standpoint of Tugan-Baranovsky in the following way :

1. Tugan's proposition pertains only to the valuation of reproducible commodities on behalf of an individual who produces them himself. They are estimated distinctly at hedonic indices.

2. It is assumed that the goods are not produced at the same time and that the judgment of the producer is not affected immediately by the increase in the amount of good A. According to Tugan, one will start to produce B only when the marginal utility of A drops to 5. We would say that it could be produced much earlier, namely, in the second round when the marginal utility of good A decreases to 9 provided that the producer is guided entirely by comparison with regard to marginal utilities. Tugan neglects this case because his law becomes valid only when total utility of good A equals the total utility of good B which will occur when the marginal utility of A is as low as 5 while the original marginal utility of B remains unchanged. Consequently, the famous formula of Tugan-Baranovsky is correct only if two goods are not produced simultaneously and the production of the good requiring higher labor costs starts at the time when its marginal utility coincides with the total utility of the other good produced previously for a certain period in succession and continuously consumed. In other words, the labour costs of two goods are proportional to their marginal utilities only when their total utilities are equal.

Total utility in Tugan's case could be estimated in two different ways that is, according to Bohm-Bawerk and according to von Wieser. Yet, it is better to use von Wieser's method, namely to multiply marginal utility five by two (units). The assumption would be production for immediate consumption. Otherwise, one would have to integrate five and four which would not bring about a real equalization of both total utilities.

In its improved form, the proposition of Tugan-Baranovsky is valuable for two reasons :

1. It shows that the subjective value in use of a commodity which depends upon its quantity is influenced by the respective costs of production because these costs determine in a large measure the amount which will be produced. This is true of Robinson Crusoe in particular who normally will try not to produce an article regardless of its labor costs. Thus, Tugan-Baranovsky's proposition aims at reconciling two competing theories of value. One of them is subjective or marginalistic and the other is objective or "cost-bound". In our opinion, such

a reconciliation which is tried also by some other Russian economists, such as W. Gelesnoff and S. Frank, is not necessary because these theories are not antagonistic at all. The "cost theory of value" endeavors to explain the reason why man is induced to estimate commodities while the subjective value theory tries to find *how* he estimates them. In general an economizing individual must estimate commodities because they cost something, at least effort. He tends to estimate them normally at their desirability or desiredness taken on the margin. Pretty close to this proposition comes Lewis Haney in his theory of good's "subjective worth".

2. Tugan's proposition clearly shows that even an isolated economizing individual should care for a change in the total utility of the stock he produces.

In the theory of valuation, an important question is when is the economizing individual in equilibrium. In general, one should say that the individual is in equilibrium if he does not desire to make any change. For instance, a pure consumer is in a "state of rest" when he does not want to make any change in his consumption developed according to a definite subjective scale of preferences—which is a sign that the satisfaction of his wants, attainable under given limitations, has reached its optimum.

In economic theory there are three different approaches to the concept of individual equilibrium :

1. *The law of equalization of marginal utilities*, which in Europe, is known as "the second law of Gossen," the name being given by William Lezis. This principle is accepted universally and brought into relation with the price problem. In particular, Marshall, Knight and Mukerjee, attach major importance to this "law", conceived as man's natural tendency.

2. *The law of equalization of marginal net revenues* (primarily in a psychic sense) which was introduced by Gossen and improved by Liefmann. It is applied in American economic literature with some reservations by Professor Knight, while among modern European economists von Stackelberg is the most typical representative of that approach.

3. *The principle of equalization between marginal rates of substitution*, with regard to any two goods and the ratio of their prices. This principle is advocated by a good many economists, such as Hicks, Hayek, Stigler, to name but a few.

We can develop the following propositions pertaining to the Second law of Gossen or to the law of equalization of utilities at the margin :

1. Gossen himself has formulated this law as follows : "A marginal unit of expenditure in each direction must bring the same amount of satisfaction." This implies that an economizing rational individual conceived as a pure consumer tends to distribute his money income or the given amount of money put aside for shopping in such a way that the marginal dollar (or cent) spent on each good acquires the same amount of hedonic units, that is, adds equal satisfaction. The same idea is expressed by Oscar Lange in the following way :

"Consumers maximize the total utility that they derive from their income by spending it so that the marginal utility of the amount obtainable for a unit of income expressed in money is equal for all commodities."

2. One should not make allowance for the satisfaction of a lower want, that is, a want which has the lower degree of intensity or is gratified by a good which has a smaller marginal utility as long as a higher want remains unsatisfied. On the other hand, no higher want should be satisfied to the point of saturation if such an action would force one to neglect entirely even the lowest want taken into account by the subjective scale of preferences which reflects man's hierarchy of wants, because even the least essential want craves gratification as long as its point of saturation is not reached. Von Wieser says that the lowest ungratified want lies above the selected "margin of utility" (in our opinion, margin of desirability) of any higher want. Only a fully gratified want or an unrealized need lie below this margin.

3. In our modern money exchange economy, an economizing individual can be in equilibrium only when the ratio of the marginal utilities of two acquired goods equals the ratio of their prices. In other words, one will not mind paying twice as much for A as for B if the marginal utility of A is twice as big as that of B. An individual will be in complete equilibrium with regard to the given system of prices if all prices which he pays are proportional to marginal utilities of the respective purchased commodities. Let us take an example which will elucidate this development :

<i>Hat</i>	<i>One Pair Shoes</i>
\$10	\$6
5	3

The first row is the market value or objectively expected price which here coincides with the price that an individual is willing to pay. The second row shows hedonic indices which symbolize marginal utilities.

In the case shown by our example, with each marginal dollar spent in both directions the given individual acquires an equal amount of hedonic units, namely :

$5/10=3/6$ that is, marginal dollar acquires $1/2$ of hedonic unit in each case.

In this case, an individual is in equilibrium also because the ratio of marginal utilities equals the ratio of prices, namely : $5/3=10/6$.

The individual also would be in equilibrium if he assigned hedonic index 10 to the hat and 6 to the pair of shoes. Only in this case, these goods would be twice as important as before and he would enjoy them twice as much because the marginal dollar would have acquired one hedonic unit instead of one-half in each case. This could also imply that subjective value in exchange of money in the latter case is twice as great as before. For \$10 he acquires a good whose marginal utility for him is ten, and not five, not only when the desire for the good increases, but also if his money income decreases.

In principle, every rational individual tends to adjust his hedonic indices to the given market values by trying to make them proportional. Should an individual pay a lower price than that which he expected to pay and which was adjusted to the hedonic index assigned to the given good he will obtain a positive consumer's rent which can be expressed either in terms of money or in terms of hedonic units. If, in our example, he had to pay \$8 instead of \$10 for the hat there would be a positive consumer's surplus amounting to \$2. Yet, he agreed to acquire 5 hedonic units with \$10 so that for \$8, he should have \$4 hedonic units which gives him one hedonic unit as a positive buyer's rent. If the given individual pays a higher price than that which was adjusted to the assigned hedonic index, there will be a negative consumer's surplus. Only an "objectively normal" consumer is in complete equilibrium under dynamic conditions. A normal economizing individual may agree to pay an excessive price for a long period, that is, to obtain a lasting negative consumer's rent, only if he is purchasing the services of a durable consumption good. For instance, one pays a comparatively excessive price for an apartment when it is difficult to move because of furniture or a congenial environment, not to mention the shortage of apartments. The tenant may resent the rent which he pays and still will not move.

A pure consumer equalizes marginal utilities in the sense that he makes them proportional to the prices which he pays for the respective goods and thus obtains the same amount of hedonic units with the marginal expenditure in each direction.

If an individual has a choice of buying one pair of shoes or two shirts for \$10 and prefers to acquire two shirts, this normally will be caused by the fact that the total utility of two shirts exceeds the total utility of one pair of shoes. If he assigns the

hedonic index 10 to the given pair of shoes, he thus acquires with the marginal dollar, one hedonic unit. This may imply that in conformity with the law of equalization of marginal satisfactions, the total utility of two shirts will amount to at least 11 hedonic units so that the marginal dollar spent in that direction will bring more than one hedonic unit because otherwise the given individual would hardly have distinctly preferred the shirts to the shoes. Since two shirts represent an economically divisible durable good, their total utility will be constituted by an integrated marginal utility. In other words, we can assume that the marginal utility of one shirt will be for instance 6 and of the other one 5.

4. When a good has several different uses such as grain which can be used by a farmer for producing bread, seed, or fodder, it is subject to the first law of Gossen but is distributed over selected uses according to the second law of Gossen. Namely, one holds off the allocation of the good to the first use when the respective marginal utility equals the marginal utility of the first unit of the second use. In this case, the whole process of distribution aims at a condition when gratification of any want is arrested at an equal hedonic index. This idea was elaborated by the American economist Seager in particular. The same principle can be applied also when a good, for instance, water, is employed for several non-productive uses, such as drinking, washing, etc. This case may be illustrated by the following example :

Grain is distributed over different uses in conformity with the "law of equalization of marginal utilities" in the following way :

<i>Bread</i>	<i>Seed</i>	<i>Fodder</i>	(Data are expressed in terms of <i>hedonic</i> units).
8	6	4	
7	5		
6	4		
5			
4			

The second law of Gossen considers both kinds of money value as constant and represents in principle a static picture because according to it the economizing individual does not aim at a consumer's surplus. In its main formulation it does not stress the fact that the individual should compare his satisfactions with corresponding costs. Yet, Gossen realized that an individual who economizes consciously cannot be satisfied with an automatic equalization of marginal utilities but will try to compare them with respective sacrifices. Perhaps he was influenced by the works of Turgot. Hence arose a new approach to the problem of equilibrium with regard to an economizing individual which

was elaborated much later by Liefmann. This approach can be reduced to the following propositions :

1. Hermann Gossen declared that in the last analysis any producing individual tends to pay attention not only to the marginal satisfactions obtained from the goods he gets but also to the marginal disutilities of respective labour efforts conceived as pain. Thus, a rational economic man practically equalizes the ratios of pleasure (or marginal satisfaction) to corresponding sacrifices (or labour costs.) This contains in nucleus the above discussed theory of Tugan-Baranovsky, although the starting point is different and the entire approach of Gossen is more hedonistic.

Liefmann accepts this proposition in principle and stresses the fact that it pertains to a primitive producer who works for his own consumption and the labour costs (as pain) are expressed in hedonic units, just as the corresponding marginal utility of the produced good so that their comparison would yield a psychic net revenue either positive or negative if they do not equal each other.

In the beginning, when man starts to produce a divisible good which he wants to consume, there necessarily will be a positive psychic net revenue. Later on, a decrease in the marginal utility of the product will be compared with an increase in the corresponding pain. Jevons produced a set of curves which recognized that any producer gets some pleasure out of his task. Liefmann maintains that a rational individual will tend to push his economic activity (production or buying) in each selected direction until marginal satisfaction and respective marginal pain become equal everywhere and there is no psychic net revenue on the margin. In this case, his economic activity will be in complete equilibrium and he will have no motive for any change. Before the point of total equilibrium is reached some goods will be worth acquiring or, in Davenport's terminology, will have "subjective worth". This is the case as long as the subjective use-value of the acquired additional unit of a good continues to exceed the disutility of the corresponding sacrifice.

Under dynamic conditions, however, the economizing individual will have to act in such a way that there will be an equal positive psychic net revenue everywhere as a difference between marginal satisfaction and corresponding sacrifice, since equilibrium between them is not always attainable. Besides, unlike Gossen, who means labour costs, Liefmann usually prefers to apply the concept of psychic opportunity costs which, according to him, can be compared more easily with the respective attained satisfaction. So he says that under conditions of a money

exchange economy any pure consumer tends to distribute his money income or the given amount of money over his different wants in such a way that the ratio of marginal utility to corresponding psychic opportunity costs (or to satisfaction which he could derive from purchasing the next best alternative) will be the same in each case and will yield no psychic net revenue. The same principle is applicable when a producer distributes his limited total effort over different branches of activity. With regard to an imperfect dynamic reality however, Liefmann's law reads as follows :

"Under dynamic conditions an economizing individual conceived as a pure consumer tends to distribute his scarce means over different selected wants in such a way that the positive psychic net revenue determined by the relation of marginal utility (satisfaction) to the corresponding psychic opportunity costs and expressed in terms of hedonic units is the same in all the fields of consumption." In such a case, the given individual attains a state of relative equilibrium. He would be in total equilibrium, however, and would have the greatest possible total satisfaction if his means allowed him to push the gratification of each selected want to the point when his marginal satisfaction and marginal pain coincide. This practically stands behind the vital equilibrium between marginal revenue and marginal costs which we shall discuss in another context.

The formulae developed by Tugan, Gossen and Liefmann are somewhat different since they look as follows :

1. Tugan's case	$\frac{\text{Marginal utility } 10}{\text{Marginal utility } 6} = \frac{\text{Labor costs } 5}{\text{Labor costs } 3}$	labour costs conceived as labor hours.
2. Gossen's case	$\frac{\text{Marginal utility } 10}{\text{Labor costs } 5} = \frac{\text{Marginal utility } 6}{\text{Labor costs } 3}$	labor costs expressed in terms of hedonic units.
3. Liefmann's case (static norm)	$\frac{\text{Marginal utility } 10}{\text{Psychic opportunity costs } 10} = \frac{\text{Marginal utility } 7}{\text{Psychic opportunity costs } 7}$	here psychic net revenue is eliminated.
4. Liefmann's case (Dynamic conditions)	$\frac{\text{Marginal utility } 10}{\text{Psychic opp. costs } 5} = \frac{\text{Marginal utility } 7}{\text{Psychic opp. costs } 2}$	here marginal psychic net revenues are equalised.

2. According to Tugan-Baranovsky, as well as Emil Sax, and in part von Wieser, an individual who produces for his own consumption tends to produce first not the good which has the greatest marginal utility for him but the good which can be produced with the lowest labor costs provided of course that the demand for it also is comparatively great. Liefmann modifies

this proposition by adjusting it to the law of equalization of marginal net revenues. He maintains that any rational producer will produce first neither the good which possesses the highest degree of desirability nor the good which incurs the lowest labor costs but that good which yields the largest positive psychic net revenue, that is, which gives the greatest excess of marginal utility over corresponding labor costs, both being expressed in hedonic units.

3. Liefmann realizes that under conditions of a modern money exchange economy, any economizing individual is interested in getting a net revenue in terms of money, unless of course, he acts as a pure consumer for whom a psychic net revenue has much greater importance. For this reason, Liefmann adjusts the principle of equalization of marginal net revenues to the actually prevailing conditions, which is very easy to do. We can use the formulation of this law in its application to an acquisitive economy as it was proposed by Frank Knight, namely :

“In the utilization of limited resources in competing fields of employment, we tend to apportion our resources among the alternative uses that are open in such a way that an equal amount of resource yields an equivalent return in all the fields.”

4. Liefmann's approach has two interesting implications :

(a) Not only an acquisitive individual is in relative equilibrium when the last unit of each productive agent in his possession yields the same money net revenue, but also the national economy as a whole is in such an equilibrium and achieves a rather healthy degree of productivity if, under free competition, the least prosperous firm, that is, the least efficient super-marginal producer in any branch of production, obtains the same surplus over the objectively normal net revenue which itself is the cost.

(b) Cost is not prior to net revenue but vice versa, because the expectation of a definite net revenue determines where the given productive “costs means”, (that is, non-specific productive agents which have alternative uses) will be employed by their possessor.

Below is a numerical example which shows the application of the first two laws pertaining to the equilibrium status of an economizing individual :

A		B	
	(in hedonic units)		
<i>Marginal utility</i>	<i>Marginal sacrifice</i>	<i>Marginal Utility</i>	<i>Marginal sacrifice</i>
10	1	20	2
9	2	19	3
8	3	18	4
7	4	17	5
6	5	16	6
5	6	15	7
4	7	14	8
3	8	13	9
2	9	12	10
1	10	11	11

We assume that an individual produces for his own consumption two different goods A and B. Good B requires twice as much time for production as good A. Consequently, according to the improved version of Tugan's law, the marginal utility of B is twice as large as the marginal utility of A when their total utilities coincide, since their marginal utilities must be proportional to labor costs expressed in terms of hedonic units. Total utility is estimated according to von Wieser's method. If an individual produces good A regardless of B and if he can push his consumption to the point of saturation, he will produce five units because after that marginal pain will exceed marginal utility.

If he has to produce good B and his resources are limited (which we assume because of diversification of his wants), he will have to produce less of A. If he produces only three units, the positive psychic net revenue will be five. Consequently, in conformity with Liefmann's law he will produce seven units of B because here net revenue is six, that is, comes nearest to five. The relationship between initial marginal utilities and the produced quantities is 20/10 vs. 7/3, that is, it is almost equal. This confirms Gossen's rule that an individual tries first to gratify a more important want as much as possible but will not push this gratification to the point of saturation because a lower want must be satisfied also. The law of equalization of psychic marginal net revenues shows approximately how the individual will try to distribute his effort (or means).

Contrary to Boulding, we must stress the fact that indivisibility of a good does not necessarily complicate the estimation of its marginal utility from a purely hedonistic viewpoint because it should not always be interpreted in terms of a "budget period" as he proposed. If one pays \$1,000 in cash for an automobile, he assigns to it an adequate current hedonic index regardless of the car's durability. One dollar must buy the same amount of

hedonic units in this case as somewhere else. Boulding is right, however, in case of consumer credit.

The third approach to the problem of equilibrium with regard to an economizing individual can be summed up as follows:

1. Any economizing individual, even a pure consumer, constantly chooses among alternatives by substituting one good for another even for a means of assignment or money. One can assume that a choice-making individual carries out in his mind a certain exchange transaction so that substitution in the given subjective (psychological) way means an imaginary exchange. An economizing individual may choose among various combinations of, let us say, two goods that will be equally satisfactory to him or yield a different degree of satisfaction. In the first case, the respective combinations are translated into a single indifference curve. In the latter case, they are assigned to various indifference curves which possess a different hedonic index, that is, are more important or less important to the given individual. A greater quantity of either good accompanied by an unchanged quantity of the other good brings greater total satisfaction and thus leads to an indifference curve with a higher index.

2. When one substitutes (or exchanges) one good for another (no matter whether in reality or in the imagination) the marginal rate of substitution between these two commodities is decisive because under normal conditions, this rate gradually grows less and thus sooner or later stops the whole process in question. By the marginal rate of substitution between two commodities A and B, one understands the quantity of A which the given individual is willing to exchange for the last increment of B. With regard to the means of production the marginal rate of substitution will be such a quantity of the productive agent A which can be dropped without any decrease in the revenue when the amount of productive agent B is increased by one more unit.

3. According to this approach under conditions of a modern money exchange economy an economizing individual is in equilibrium only when his marginal rate of substitution between any two commodities equals the ratio of their prices. If, for instance, he is willing to exchange eight apples for one additional orange, an orange should cost eight times as much as one apple. The following numerical example illustrates the theory of the marginal rate of substitution. We assume that an individual substitutes oranges for apples and that he initially possessed sixty apples.

<i>Apples</i>	<i>Oranges</i>	<i>Marginal Rate of Substitution</i>
52	1	8
46	2	6
42	3	4
40	4	2
39	5	1

All of these combinations, namely forty-six apples plus two oranges, or thirty-nine apples plus five oranges, are at the given time "indifferent" that is, are equally desired by the individual. For this reason, they are translated into one indifference curve which looks like an ordinary demand curve. Should the individual start with a larger amount of apples, for instance, with eighty apples, the marginal rates of substitution will be different because from the beginning the apples will be less valuable for him. In this case the development will be as follows :

<i>Apples</i>	<i>Oranges</i>	<i>Marginal Rate of Substitution</i>
70	1	10
62	2	8
56	3	6

In this case again all combinations are "indifferent" and are translated into one indifference curve. Yet, this second curve has a greater hedonic index because each point on it yields greater satisfaction than a similar point on the first curve. It is in principle more pleasant to have sixty-two apples plus two oranges than forty-six apples and the same two oranges. Any individual can develop a map composed of indifference curves pertaining to the same two goods and showing different hedonic indices.

This approach can be traced to the theory of indifference curves, devised by Marshall for the purpose of solving a special problem and then further developed in a purely mathematical way by the British economist Edgeworth and still later by Pareto, Hicks and Allen. Furthermore, it is distinctly influenced by the theory of exchange offered by Leon Walras and Jevons. For Jevons, exchange sometimes means a process of substitution conceived in a rather psychological sense.

There is no doubt that any exchange is a type of substitution. If we analyze the above-cited numerical example, we shall find that there are the following processes :

1. *Substitution* : One orange is substituted for eight apples.
2. *Exchange* : Eight apples are exchanged for one orange.

3. *Valuation* : Eight apples are estimated at one orange., or are considered to be to equal in value to one orange.

4. *Choice-making*. One choses to have one orange in lieu of eight apples.

The approach under considertion has some strong points, namely :

1. It is evident that when an individual relinquishes a good in exchange for another, he substitutes a new good for the good which he possesses. Consequently, he must compare both of them from his subjective standpoint and thus fixes a satisfactory marginal rate of substitution. It also is clear that the more he exchanges his good for another good (both are supposed to consist of interchangeable units) the more he reduces the quantity of his good which he gives for the incrment of the other. Exchange will stop as soon as the given individual becomes unwilling to acquire the second good at the expense of the first.

2. Under normal capitalistic conditions, a regular exchange transaction is improbable unless the marginal rate of substitution between two goods equals the ratio of their prices. Yet, in real life there are some deviations from this rule : When, for instance, a man gets a box of oranges which he cannot preserve since he has no ice box and cannot sell because of his inexperience, he may prefer to exchange quite a few oranges for some apples which his immediate neighbour may wish to relinquish without considering current prices. Such a deviation does not hurt the above mentioned norm as such.

On the other hand, this approach has several weak points :

1. It wrongly pretends to be able to eliminate the theory of value which on the contrary is virtually confirmed by this approach even if such a contention seems to be a paradox.

2. It exaggerates the significance of indifference curves in their original form, that is, when they pertain to a barter economy.

3. It denies that choice-making is valuation, which again sounds like a paradox. Of course, it is true (as we have already seen in another context) that sometimes there is a valuation without any choice-making. Yet, any choice is a rough process of valuation at least. Frank Fetter means the same thing although unlike us, he believes that choice precedes valuation.

4. It becomes inconsistent when it tries to solve the problem of individual equilibrium.

By a scheme of propositions we shall prove that the Pareto-Hicks approach is an off-shoot of the theory of subjective value in

use and is a supplement to it. The idea that with the "indifference method" no important change has taken place in economic theory is advocated by quite a few influential economists, such as Frank Knight, Oscar Morgenstern, Raymond Bye and Erich Roll. As a criticism, we can develop the following propositions :

1. Any indifference curve virtually shows the valuation of two goods compared with each other in different amounts and treated as directly related phenomena. On the other hand, when they are considered from the standpoint of a subjective scale of preferences, they are treated as indirectly inter-related phenomena. Consequently, the difference between the two procedures is not very great.

2. The principle of the diminishing marginal rate of substitution obviously is derived entirely from the first law of Gossen, because good A, which is exchanged for B gradually becomes scarcer and thus more valuable while good B which is acquired in exchange is subjected to a reverse change. The marginal rate of substitution will be increasing if the law of increasing marginal utility stands behind the process of substitution. This proposition practically is related to the statement of Jevons and Walras that the new ratio of exchange between two goods will be the reciprocal of the ratio of the marginal utilities of the quantities of both goods available for consumption after the exchange is completed. In our case, the ratio of exchange will become less favourable for good B because after the exchange its marginal utility will decrease and that of good A will rise. Behind the decreasing marginal rate of substitution with regard to two means of production stands the law of diminishing marginal revenue. Also here "evaluation" is involved and ultimately determines substitution policy.

3. According to the theory of value, the marginal rate of substitution between two commodities means that the marginal utility (in a dynamic sense) of one good is expressed in terms of another good for which it is substituted by the economizing individual. In other words, it shows how the last increment of one good is estimated in terms of another good.

4. Marginal rates of substitution for the given good can be psychologically the same in all its uses only if the marginal utilities of all goods for which the given good is exchanged are proportional to their prices and thus are adjusted to the marginal rates of substitution. For example, we assume that either pears or oranges or lemons are exchanged for the last additional chair and that the respective marginal rates of substitution amount to 60, 120 and 200. Furthermore, we suppose that each item

conceived as an entity costs, for example, \$6 because otherwise one could not rationally treat 60 pears in the same way as 200 lemons. Under this assumption, the prices paid for one pear, one orange, and one lemon will constitute the following ratio : 10 : 5 : 3. The respective marginal utilities standing behind the scene as the real symbols of valuation will be inter-related in the same proportion. If the given individual agrees to exchange an additional chair for lemons instead of pears, he will require 10/3 times as many lemons as pears or

$$\frac{60 \cdot 10}{3} = 200$$

Here the marginal rate of substitution is determined because the respective marginal utilities or rather their ratio is known.

5. The theory of marginal utility is very consistent when it analyzes the problem of equilibrium in respect to an economizing individual. If, for instance, the given individual pays \$4 for a shirt under the assumption that this price is adjusted to the respective marginal utility, he is in equilibrium. Should he buy simultaneously a second shirt he will have to pay the same price despite a decrease in marginal utility—which implies that the given individual will have a negative consumer's surplus and thus will be in disequilibrium. Generally speaking, an economizing individual conceived as a consumer will be in equilibrium in any given moment if all the prices which he pays are proportional to the respective hedonic indices he assigned to the purchased goods. On the other hand, the indifference curve approach does not treat the problem of equilibrium as applied to an economizing individual consistently. It is assumed that he is in equilibrium if the marginal rate of substitution is proportional to the respective price. If we take our above-discussed numerical example the given individual will be in equilibrium when an orange costs eight times as much as an apple. Should he be able to continue exchange by observing the same utility indifference curve, the ratio of prices will not change but the marginal rate of substitution will decrease to six. This implies that our individual will be in positive disequilibrium. Yet, the "indifference method" means that all marginal rates of substitution pertaining to the same curve are "indifferent" to him so that logically he will be in equilibrium when the given price becomes unproportional to the marginal rate of substitution. Thus, the inconsistency of this train of thought is evident. It is very confusing when the representatives of "indifference curve analysis" say that a point on a superior indifference curve represents a bigger total utility than the respective point on a lower curve because in this case one has to do with evaluation of a pair of commodities so that one ought to use some other term, like, for instance, a "compound utility".

The approach under consideration is far more congenial to

a primitive barter economy because a modern economizing individual taken as a pure consumer hardly considers his purchases as a process of exchange or substitution. He normally tends to spend his money income in conformity with the second law of Gossen. The same means Robert Pettengill when he says that in real life consumers do not evaluate relative pairs of commodities but rival quantities of the same good or single units of rival goods. Should the given individual be acquisitive he may tend to act in conformity with the monetary version of Liefmann's dynamic law. This is especially conspicuous when one distributes a certain amount of capital disposal over different investments. As to indifference curves, their importance clearly is exaggerated. Even Hicks admits that such curves become unrealistic as soon as they have to refer to more than three commodities. One cannot deny, however, that under conditions of a small scale primitive barter economy, such a device could be very useful. Otherwise, a rational individual will act according to the more realistic principles developed by the theory of subjective use value. Quite unrealistic is, in our opinion, the so-called "outlay indifference curve". It is assumed in such a case that if an individual decides to spend \$6 on beef and pork, it will be "indifferent" from his subjective viewpoint whether he buys 6 pounds of pork (at 50 cents a pound) plus 5 pounds of beef (at 60 cents a pound) or any other combination of these two goods as long as the entire outlay amounts to six dollars. It is evident that in reality any consumer will show predilection either for beef or pork without violating the limit set by the amount assigned by him to the purchasing of these two goods.

One can assume, like Hicks, that an individual might care to build up in a regular way quite a few indifference curves which will combine goods with money; yet such a curve practically is a demand curve which determines how many units of money an individual is willing to relinquish in continuous exchange against the consecutive increments of his stock of the given good. It is very doubtful that in reality an individual will interpret his regular demand curves in terms of substitution. Besides, any demand curve of an economizing individual ultimately depends upon his actual subjective scale of preferences—which we shall discuss in a another context.

On the whole, the "indifference method" is original only in as much as it is based on indifference curves in their primary (or fundamental) form when a good is substituted continuously for another good and not for money. Thus, this approach has a very restricted significance in economic theory. The only significance it has is due to the fact that it serves as a supplement to the theory of marginal utility. This once more confirms our

standpoint that the contention of some contemporary economists such as H.J. Davenport, Cassel, Hicks, A. Aupetit and Pareto, that choice makes the concept of subjective value in use obsolete has no theoretical foundation. For this reason, one cannot be surprised that such economists often are inconsistent since in reality they are unable to drop entirely the theory of value. For instance, Pareto does not renounce the concept of "restricted desiredness" (in our terminology) while Cassel gives attention to the psychic consumer's surplus and cares for the value of money.

In conclusion we have to point out our agreement with Raymond Bye that the "indifference theory" is much more awkward than the marginal utility analysis. Its terminology is more clumsy (witness the replacement of the term "marginal utility" by the ponderous phrase "marginal rate of substitution"), and its mechanics is more complicated (demand schedules can be derived more simply from marginal utility schedules than from indifference curves and tables). This is an unnecessary inconvenience. In addition, the "indifference method" can be applied only in some restricted cases.

The process of exchange conceived as a static equivalence problem is exactly explained by the general theory of value and pertains also to the cost theory which is linked rather closely with the value theory. Since exchange is an economic activity, it is bilateral in principle and can be an equilibrium phenomenon only if both parties believe that at the moment of transaction, there was an exchange of equivalents. From this standpoint, an exchange transaction appears in one of the following three forms :

1. Two primitive individuals exchange goods bearing equivalent labor costs or representing an equal amount of labor hours of the same intensity fixed by agreement. Here exchange comes very close to an equilibrium ideal advocated by medieval economists in their theory of commutative justice.

2. Two individuals acting under conditions of a money exchange economy, exchange goods which represent an equal market value. For instance, if a farmer exchanges a cow which costs \$200 for a horse of his neighbour which normally should be purchased for \$170, he will require \$30 in cash, provided that both farmers take into account the market value of the given goods and consider the dollar as a common denominator. The farmer under consideration could try to get more than an equivalent but this would be a dynamic case which does not concern us in this context.

3. Two individuals exchange goods representing equal subjective values in use for both of them. In this case, the farmers of our previous example do not care for the market value. The

farmer who owns a superfluous cow gives it away for a horse because for him both of these animals possess just the same subjective value in use. It might happen in real life, however, that he will derive a positive psychic net revenue from such a transaction if for him the marginal utility of a cow is very low. The fact that exchange can be in equilibrium when subjective values in use of two persons are equal proves that a primitive native of the Black Continent is not always cheated from his own standpoint when he exchanges a piece of gold for a glass decoration. Of course, such a savage should be warned that some day he might get much more for his article since it possesses a great market value from the standpoint of the civilized world. Yet, it is quite possible that even in spite of such a warning, the primitive man will prefer not to wait for a better exchange possibility, if, for instance, the given necklace may raise his social standing in the local community at once. In other words, the savage will take into account the fact he is paid in esteem and thus obtains a certain psychic income—as is correctly stressed by Fetter.

CHAPTER VII

COST BEHAVIOR

In previous chapters we have dealt with labor costs and opportunity costs; yet these concepts need further clarification. The costs of a commodity appear in quite a few forms, namely :

1. *As a Historical Category*, but a naturalistic phenomenon. We mean, in this case, money costs or the total expenditure made on all productive agents used in the production of the given commodity. These costs include various portions of "objectively normal net revenue", such as remuneration for waiting and eventual reward for the use of natural land. Total costs may be estimated easily in this way because money in the narrower sense is a very convenient common denominator. Any technical coefficient, that is, any combination of the factors of production, can be expressed in terms of money. Even the quality of the used productive agents may be considered because market value in terms of money reflects the quality of the respective good.

In our modern exchange economy, costs are normally conceived as expenditures and for this reason are expressed in terms of money in the narrower sense. On the other hand, barter based on exchange of equal use values is in an exception in our time. Yet, in the last analysis one should not overlook the fact that money costs are in principle the real costs incurred during production of the given good, expressed in terms of money. In any case, under normal conditions when there is no intended undervaluation of the factors (including productive services such as waiting and management), money costs simply reflect the real costs represented by the productively consumed factors of any kind, even if one does not always realize this.

2. *As a Logical Category*. In this case, costs appear as the above-mentioned real costs. Yet under all conditions, when there is no money in the narrower sense, real costs must be expressed in terms of a subjective or an artificial common denominator. Some classical economists, such as Cairnes want to express total real costs in terms of subjective sacrifice, abstinence, or effort of a certain intensity conceived as pain. Such a method is impractical for three reasons :

(a) Various psychic costs such as disutility of labor, waiting, and risktaking, are so different that sometimes they can be

incommensurable even with regard to a single individual whose feelings and thus psychic sacrifices may change in place and in time.

(b) Some real costs, eventual computation of the services of scarce natural land, for example, do not represent sacrifice in the usual sense.

(c) It would be impossible to compare costs incurred by different persons.

Some economists try to express real costs in terms of a certain artificial blending which diminishes "subjectivity." For instance, the Classical British economist, Bastable, proposed to reduce real costs to the "units of productive power." Such a method is deficient and arbitrary because different factors of production are incommensurable when they are expressed in real terms. So, labor, land and capital are combined in different proportions and cannot be resolved into each other.

Therefore, influential classical and socialist economists who were opposed to the use of money in the narrower sense as a common denominator used the comparatively easiest method by considering real costs as labor costs. It is interesting to note that two very progressive economists of our time Sombart and Keynes show predilection for this kind of costs. In such a case, there is a certain objective common denominator, namely a conventional standard effort, usually an objectively normal labor hour of fixed intensity which serves as a universal norm. It is assumed that two efforts of any kind expressed in terms of a conventional labor hour can be easily compared with each other. Rodbertus and Marx prefer to speak in this connection about "labor value". This concept is permissible provided that one understands by it the result of estimation of disutility of labor. Also, here appraised utility which is negative is brought into relation with scarcity (or quantity of the effort made). For this reason, it is theoretically correct to measure effort in labor hours of a given intensity, that is, to express effort in terms of time since it is limited only by the time at man's disposal. Karl Marx considered labor as a substance of objective (or "labor") value. This proposition is not acceptable because any value has a psychological background since it is the result of estimation of a certain utility. One cannot agree with the Marxian economists that value is "crystallized labor", but one may say that often, in real life, value is in part a function of labor which determines the scarcity of the given good. It is possible to agree with Tugan-Baranovsky that labor is a substance of "absolute costs" which are determined by the ratio of labor hours of conventional intensity to the corresponding quantity of units produced. In any

case, it is wrong to identify value with costs because value has always a distinct psychological foundation since valuation means estimation while costs are not necessarily a psychological phenomenon. A criticism of the labor cost device coincides in principle with that of the case formerly discussed, namely :

(a) Not every cost is linked with labor, an eventual payment for the use of natural land, for example. In other words, it is practically impossible to reduce all real costs to labor costs. Some classical economists, in particular Ricardo, recognized this obstacle. This induced them to make an unrealistic assumption that all real costs are proportional to labor costs and therefore could be neglected.

(b) It is difficult to express different kinds of qualified labor in terms of unqualified labor of fixed intensity.

3. *As a Mixed Category or Opportunity Costs.* These costs can sometimes appear as a logical category when they are linked with effort in time for instance and sometimes as a historical (or monetary) phenomenon. Consequently, they represent a mixed category with regard to the famous dichotomy proposed by Plato and Rodbertus. Very often, but not necessarily, opportunity costs have a psychological foundation because one foregoes not only the pleasure but also a good or an amount of money. Costs of this kind are sometimes called alternative costs or displacement (transfer) costs. In any case, opportunity costs are determined by the next best alternative which had to be foregone when a certain good was acquired or a certain use for the given productive agent was selected. This term was introduced by von Wieser and popularized in America by Davenport. The idea of choice is inherent in the conception of opportunity costs. There is no foregone opportunity unless there is a certain choice-making.

Opportunity costs appear in the following ways :

1. *As a logical category.* In such a case, these costs are determined by the foregone next best alternative use of effort (or labor) in the given period of time expressed either in terms of foregone satisfaction which could be derived from leisure or in terms of some material goods which would otherwise be produced. Even Robinson Crusoe constantly incurs some opportunity costs, when he allocates his productive effort that is limited in time.

2. *As a roughly logical category.* Here a subdivision is necessary, namely :

(a) Opportunity costs appear as a distinct psychological phenomenon when a pure consumer who buys a good abstains from purchasing another good which he also wants. Here the

economizing individual foregoes certain satisfactions expressed in hedonic units. Sometimes the next best alternative good is wanted so much that its exclusion means a serious and concrete sacrifice from the standpoint of the given individual.

(b) Opportunity costs appear as the next best alternative use of the total amount of the factors of production (including labor) in terms of conventional labor hours. This is a theoretical case advocated by some partisans of labor-cost approach.

3. *As a historical category.* Here the subdivision is as follows :

(a) Under conditions of a modern money exchange economy, opportunity costs incurred by a producer are measured chiefly by the foregone best alternative use in terms of money to which the factors of production used in producing the given commodity might have been put had this particular commodity not been produced. When a manufacturer selects a certain use for his scarce productive agents, he necessarily foregoes other desirable uses which might be remunerative.

(b) Opportunity costs can be represented by the foregone best alternative use of the given capital disposal or by the best foregone investment. In this case, the liquid money capital appears as a "cost means" because it is a nonspecific phenomenon. Some economists, like von Wieser and Liefmann, who frequently use this term, correctly identify "productive cost-means" with a non-specific productive agent since any use of each factor of this kind necessarily incurs an opportunity cost so that the agent itself is closely linked with the idea of costs.

The concept of opportunity costs is widely accepted in economic theory today. Yet, it meets with criticism which we can reduce to the following propositions :

1. Hans Peter maintains that at any time a rational economizing individual satisfies his most important (or urgent) want. For this reason, the foregone opportunity is not a sacrifice or cost but pure fiction. Furthermore, opportunity costs could not be a universal phenomenon because quite a few specific factors of production have no alternative use whatsoever. This fact was recognized by von Wieser himself. According to Hans Peter, a certain opportunity cost can arise only if the individual uses a good immediately when his abstinence would enable him to derive a greater pleasure from this good in the future. Thus opportunity costs assume a vertical but not a horizontal aspect. The verticality of opportunity costs is conceived by Peter in a sense which differs from that of Liefmann, whose standpoint remains to be explained.

There is no doubt that Peter's criticism is quite impressive at first glance. First of all, he is right that opportunity costs pertaining to the use of modern factors of production are not universal since not each factor is a "production cost means." Yet, one should not overlook the fact that labor is the most indispensable factor which is limited in time and thus elevates opportunity costs to a logical or universal category. Besides, when the national economy as a whole allocates its scarce factors of production by means of prices, not only an imaginary sacrifice is made but really quite a few important wants of the nation remain unsatisfied. The same is true of a pure consumer because sometimes the best alternative purchase which has to be foregone is so important that the buyer on his way home still remains uncertain that he really made the right choice. Sometimes, he makes his final choice between two goods on the way to the store. On the whole, opportunity costs are in principle a logical category, yet insufficient for explaining the entire cost problem. Peter's criticism is valuable only inasmuch as it warns against the excessive use of opportunity costs concept. For instance, Liefmann deviates too far from the normal capitalistic conditions when he proposes to estimate a factor of production at the subjective value in use of its own imaginary unit, which would be marginal if it were added to the given quantity of factors. If, for instance, there is only one unit of the given productive agent and it is used rationally, the foregone opportunity (or cost) is represented by the imaginary use of the second unit which is not there but might be added. Here opportunity costs are taken again in a certain vertical way. Such a foregone chance would often be speculative imagination although from the standpoint of the national economy as a whole, especially in case of totalitarian state, it is essential. Let us take as an example, opportunity costs with regard to iron. Here two cases are possible, namely :

(a) Under normal capitalistic conditions a private producer of the finished iron goods usually possesses a certain stock of iron and by selecting one definite use for it foregoes another one as the next best alternative. This foregone alternative use will be his opportunity cost and will be very perceptible if he miscalculates and selects the wrong use which results in a loss.

(b) In a planned economy, in particular a totalitarian country, an economizing state does not care exclusively for the horizontal opportunity costs measured by the foregone best alternative use of iron but is more concerned about vertical opportunity costs caused by foregoing production of iron on a larger scale. The reason is that such a state distributes not only the given produced quantity of iron but also allocates simultaneously other resources which could be shifted to the production

of a larger amount of iron at the expense of some other goods. Consequently, here Liefmann's approach finds an application. It can eventually be applied also to capitalistic conditions but it would not be characteristic of them.

2. Some economists, such as Pareto, maintain that when opportunity costs are conceived as a subjective psychic phenomenon it is possible to appraise the total real costs including such an item as an eventual computation of the services of natural land. This is not exactly true because one does not make a sacrifice in terms of opportunity costs if one uses a specific productive agent. Furthermore, the psychic opportunity costs of two individuals are incommensurable and thus of very little use.

Some contemporary economists who use only the concept of opportunity costs in their theory of costs necessarily come to very undesirable or strange conclusions, to say the least. For instance, Professor George Stigler makes the following contentions :

1. If a mid-ocean island can be used only for refueling planes, then to the air transportation industry there is no cost in using the island since the industry could hire this island for \$1.00 a year. Such a proposition is not acceptable because if the owner of the given island realizes that his property is needed by the air transportation industry, he as a monopolist can require a high price for its use. This will be especially true if there are several competing air lines. In any case, the fact that the given island has no alternative use does not necessarily depreciate it.

2. Stigler maintains that if the acting of a movie star is worth \$100,000 a year to the movie industry and only \$2,000 elsewhere, \$98,000 would be a "non-cost outlay" for the firm. One can seriously doubt that the movie industry would approve of such a proposition because it virtually makes an expenditure amounting to \$100,000 and does not intend to incur a loss or to give a token to the actor. From the standpoint of the actor, the \$98,000 would not be determined by his opportunity costs and would represent a certain monopoloid rent. Stigler would be only partially right in another case, namely, if an excessive wage of management which is in principle a portion of objectively normal net revenue would be paid by the firm. Here the payment would look like money costs, but would not be a "cost outlay" because it would represent a concealed portion of profit, practically a bonus paid in advance.

3. According to Stigler, if someone buys wheat at \$1.00 a bushel, this would not be its present cost to him. The cost of goods bought today is primarily the amount the buyer expects

he will have to pay tomorrow. Here Stigler apparently confuses the actually incurred money costs with the costs of replacement which are really decisive only in the case of major inflation. Otherwise, one dollar paid for a bushel of wheat is a dollar money cost regardless of the fact that something else could be purchased with this dollar right now or that this dollar could buy a less amount of wheat tomorrow.

An undesirable overestimation of opportunity costs is typical also of Kaldor since he understands by costs only such payments for the factors which are necessary to retain these factors in their actual employment. Consequently, according to him, the remuneration of specific factors forms, no part of costs, which evidently is wrong especially from a theoretical viewpoint.

In spite of the above developed criticism, an opportunity cost device is very important as it makes us realize that the choice among alternatives (goods or uses) in a sense can be identified with estimation of opportunity costs. Even a pure consumer does not spend his money without taking into account a good many foregone opportunities in terms of foresaken purchases. Also, the "cost" of a productive agent usually is the price required to exclude the next highest bid for its services.

When we developed the scheme showing different kinds of costs, we mentioned several times that money can appear as money in the narrower sense. This implies that money is rather an ambiguous phenomenon which can assume different forms. The following scheme confirms such a conclusion. It shows that there are three main kinds of "money", namely,

1. *Money in the narrower sense*, that is, a universal and unrestricted means of assignment or a general medium of exchange that can eventually serve as a good "store of value." In this case, money is legal tender and an unrestricted means of payment. Any creditor is obliged to accept payment made in such money. It is evident that money in the strict sense implies the existence of a genuine money exchange economy and thus is a historical category. Money-substitutes, such as checks, which actualize demand deposits expressed in terms of legal tender function ultimately as money in the strict sense.*

2. *Money in the broader sense*, which is an abstract and normally a subjective common denominator or a "measuring rod of value", that serves as a basis of the scale of reckoning. Such money defined by L. Walras as "numeraire" can be expressed in

* Under modern conditions one may consider the so called "demand deposits" as "bank money" because they increase money supply. Ultimately, however, they represent money capital.

terms of hedonic units or in terms of labor hours of fixed intensity. It is a logical category since this kind of "money" can exist even in a closed economy of an isolated rational economic man who cares for a certain accounting unit. Sometimes money in the broader sense represents a universal common denominator which, however, does not function as a medium of exchange. So, for instance, a foreign currency unit (money in the strict sense) was used in this way in the Mississippi area during Spanish domination.

3. *Money in the intermediate sense* can be subdivided as follows :

- (a) A local restricted or simply limited means of assignment. For instance, when there is gold currency, silver coins must be accepted only in a legally restricted amount. During a wild inflation, like in Germany after the first world war, cities issued paper money or "city scripts" which were the general means of assignment within their bounds. "Missouri mills" issued as a means of sales tax are in a sense intermediate money of the above-mentioned kind, although they are not meant to function as a regular restricted means of assignment.
- (b) A not exactly objective and a non-universal common denominator mostly in kind. Thus, two farmers can agree that a certain material object, for instance, a certain agricultural product or a labor hour of fixed intensity should serve as a bilateral unit of account. Such a kind of "money" can also be a concrete multilateral (yet, not a universal) common denominator and is typical of any more or less developed barter economy. One usually speaks of a money exchange economy, however, only if money in the narrower sense is used.

CHAPTER VIII

STATICS AND DYNAMICS

In modern economic theory, the national economy is considered not only as a conceptually real socio-economic superstructure, but also as a pure heuristic principle, *i.e.*, an instrumental device in terms of a *scale of approximations*. Such a scale is important for the following reasons:

1. It represents a hierarchy of interpretations of a concept, each consecutive interpretation showing a higher degree of realism, although highly dynamic reality never can be perceived in its entire complexity.

2. This device is an analytical way of reasoning from simplified premises and consequently in general terms. Such a device was used still by Aristotle and in a sense represents the synthetic method.

3. The first or the lowest stage of this scale expresses the so-called "normal status." In other words, it gives a statement of what would be true if the phenomenon analyzed and represented by the scale of approximations developed under the most simplified and thus "ideal" or "normal" conditions. In some cases it shows what the phenomenon would be if it followed its natural tendencies.

The scale of approximations pertaining to the concept of the national economy conceived as an "instrumental model" embraces the following consecutive stages :

1. *Stationary or purely static economy.*
2. *Kinetic economy.*

Both of these stages or models are static although a kinetic economy has a dynamic tinge.

3. *Uniformly progressing economy.*
4. *Economy of consecutive equilibria* which sometimes is defined as an "economy of comparative statics."
5. *Purely dynamic economy.*

The last three models represent a dynamic or progressive economy approaching reality. The last stage is the most realistic.

The first attempt to develop a static approach in economic theory was made by Quesnay who gave a macroeconomic analysis of a stationary circuit flow of economic life. The first economist who made a really conscious distinction between statics and dynamics was J.S. Mill. The first American pioneer in this field was J.B. Clark.

Some modern economists including Hans Peter, Leon Walras and Jevons show predilection for a static picture. Some others, such as J.M. Clark, Frank Knight and Keynes contribute to economic dynamics. It often happens that an economist who previously made a distinct contribution to the static approach becomes one of the leaders in the field of economic dynamics. Very typical are Schumpeter, J.B. Clark, Senior, Pareto and von Wieser. Some economists, for example, Marshall, Cassel, Liefmann, and Spann employ both methods simultaneously without confining them to separate works. The most interesting shifts from one approach to another were made by Schumpeter and Pareto. Therefore, there is a great deal of difference in the works of Pareto before and after 1906 as well as in the works of Schumpeter before and after 1912. At the present, there are some dynamic economists, such as Struve, Simon Kuznets and Mukerjee, who are frankly opposed to any simplified or static picture of economic life. Most of the dynamic economists, in particular Schumpeter, Knight, J.M. Clark and Vleugels, admit that the scale of approximations developed from the most simplified or stationary model of the national economy can serve as an outstanding methodological and pedagogic device.

Some leading economists, for example, J.B. Clark, Pigou and Cassel cause confusion by talking about a static, or stationary "state." It is more logical to speak of a static picture or model of the national economy or economic life. The term "state" does not always mean status, but also another connotation which in this case is undesirable. When we speak about a stationary economy we usually eliminate the state, although one could imagine a stationary totalitarian economy; so Pigou does not exclude the state interference when he develops his purely static model.

Furthermore, some economists who are interested in a stationary model and resort to a mathematical exposition of their generalizations do not say clearly that their analysis concerns only the first approximation to economic reality. This tendency to conceal the highly abstract or simplified character of mathematical formulae applied to static models of the national economy is very confusing and discredits our discipline. Yet, the static method is very useful to economic theory, provided that it is employed openly as a pure methodological device. In other words,

it cannot serve as a starting point from which the studied phenomenon really develops, but it can point out the norms and serve as a logical tool of scientific analysis. A static, in particular a stationary model, can be useful only as a norm with which the real facts are analytically compared. Any attempt to substitute this model for a real dynamic national economy will distort reality by introducing the methods of mathematical physics with their fixed assumptions which are not suited to the subject matter of economics—as was stressed by von Wieser.

The static model of a national economy is important for the following reasons :

1. It represents two lower stages of the scale of approximations and thus gives the most simplified or idealized interpretation of economic life within a developed national economy. Such a status in respect to a national economy as a whole, can never occur in reality. Yet, even a stationary model can be imagined as a “normal” picture which would be realized if a free money exchange economy were perfectly organized, if uncertainty were completely absent, and if the economy were free from any institutional interference, or, as von Wieser says :

“would be free from any application of power exercised by the state or by any other regulative structure or factor.”

In a static economy, society must eliminate the forces of progress since these forces throw any economy into a major movement and disturbances. In formulating this idea, it is possible to follow J.B. Clark and say that a static society is influenced by forces which depend on rigid organization but not on development.

The modern static approach should not be identified with the static doctrine of the Classical economists for two reasons :

- (a) It does not pretend to deal with a perfect or ideal status which could be sublimated as an emanation of natural law, although it endeavors to determine the norms toward which real economic life tends without achieving them to any considerable extent.

Let us remember this connection that many classical economists believed that things are always developing from a progressive state to a better stationary status represented by a high consumption and full employment economy. Marx defined such a model advocated chiefly by Y. S. Mill as an “impossible monster” which is incompatible with unavoidable progress.

- (b) It conceives a static economy as a mechanical system of complete mutual interdependence, but not as a loose state of

“natural adjustments,” as was proposed by the early Classical writers. In other words, Ricardo was interested in some separate static phenomena, such as natural price, natural or normal wage, etc.

The latter difference is less conspicuous now because the recent interpretation of Classical doctrine, as it was developed by J. B. Clark, Marshall and Franz Oppenheimer, systematizes the Classical static approach to such an extent that Ricardo’s “ideal regime of natural values”, in the terminology of Paul Douglas, becomes almost identical with the modern theory of a static economy. For this reason, the first mentioned distinction is less controversial and more important. Namely, modern static economists begin to realize that they build up a strictly theoretical, *i.e.*, approximate or general doctrine, by simplyfying economic reality in order to isolate the different forces and to analyze them separately under artificial and changeless conditions.

Roughly speaking, a static economy is now considered a normal or idealized status mainly from the standpoint of the respective scale of approximations, *i.e.*, as a pure instrumental device but not because such an economy would exist if the human race were perfect. Since this economy is based on quite a few norms which can be achieved by some individual phenomena (if not by the entire national economy) it is very helpful as a tool of analysis.

2. The ontological (fundamental) principle of the static method is the concept of equilibrium. It is assumed that every change, if it occurs, will bring about an equalization of the forces which produce it. This will secure in an automatic way a condition in which eventual change will be entirely and quickly counteracted. In case of a stationary, *i.e.*, a purely static economy, the rest is complete because the opposite forces check each other constantly to such a degree that ultimately there is no change at all. Equilibrium is a distinct norm toward which each dynamic phenomenon in real life moves, without, however, attaining it at least for any length of time. For instance, water seeks its own level just as air moves toward an equality of pressure. The water continues to flow unless it is stopped artificially because the sun’s heat constantly restores inequalities which the movement of water constantly tends to destroy. If the water could be free from the sun’s interference, it would cease to move. Also the socio-economic life may tend toward a total equilibrium system, although only some separate phenomena (such as an individual price, or an individual firm) can attain an analogous state which could be defined as partial equilibrium.

The introduction of the idea of equilibrium into economics was an achievement of Quesnay. Yet, sometimes this idea is

so misused that it threatens to de-humanize our discipline. Some economists who are mathematically minded go so far as to emancipate moving material goods from any economic subject, *i.e.*, from an economizing individual and an economizing social structure. In a sense, they are right that in a capitalistic economy commodities, in particular productive agents, move almost mechanically from a point of lower to one of higher effective demand or price and that each movement obliterates (at least under normal conditions) the price difference which causes it. However, they forget that the entire circulation of goods, which is described in terms of a price mechanism becomes possible only because appraising and acting economic subjects inherit wealth from previous generations, reproduce it, increase it and run the whole quasi-automatic exchange mechanism. If man's spirit left the world of material goods (even if they were perfect automatons) and man's activities ceased, there would be no movement of goods whatsoever. In particular, we must remember that this movement is determined largely by man's valuation as well as by his propensities to consume, to invest and to hoard. There can be no economic activity without a rational human being. This case was stressed by List.

3. Real economic phenomena are so fluid and complex that they are better comprehended when they are conceived as deviation from a norm. This norm may be either fictitious as stationary demand, or a usually attainable ideal, such as normal price which just covers objectively normal total costs. It is still easier to understand a dynamic phenomenon if it is interpreted in terms of another dynamic phenomenon which is comparatively less fluid. Therefore, statistics considers cyclical fluctuations as a deviation from a trend which itself expresses a development, that is a movement. Ludwig Mises and Erich Lindahl correctly say that if one knows under what conditions the variables do not change at all or change only in the long run, one can easily find the real cause of their fluctuations and can understand why they deviate from the apparently normal status. Schumpeter maintains that every businessman constructs for himself a normal status in terms of which he interprets his real achievements.

A stationary economy represents the most simplified model of the static economy and thus the lowest stage of the scale of approximations. The following propositions concern such a purely static economy:

1. A stationary economy is complete fiction because it is based on the assumption that the entire economic life is without any change. In other words, all socio-economic data are supposed to have no motive for change. Von Wieser expresses this idea by saying :

“Under stationary conditions, there is only a functioning without progress or retrogression.”

Not only economic phenomena themselves tend to remain unchanged, but also the whole material or social environment is at rest. Consequently, it is assumed that population, fertility, organization, technology, and taste, remain stable.

2. A stationary (or purely static) economy represents perfect or total equilibrium. In principle this implies that any economic good is in equilibrium as well as any economic subject, in particular an economizing individual.

A single economic good can be in equilibrium in the following two ways :

(a) It is in moving tentative equilibrium when its realized market price equilibrates only the demand for and supply of the respective goods.

(b) It is in final equilibrium when the realized market price coincides with its “normal price” or with the presumed objectively normal total costs. Furthermore, in this latter case, the realized market price should establish an equilibrium between production and consumption. The distinction between the two mentioned cases was stressed by Henry Moore.

In a stationary economy, each good must be in final equilibrium, *i.e.*, in double equilibrium because the realized market price adjusts effective demand to effective supply and simultaneously equals the actual “normal” price in the above mentioned sense. Besides, it has to be in total equilibrium since there are no potential buyers and sellers. On the other hand, in a dynamic economy, each realized market price frequently is in tentative equilibrium only. It can happen that market price falls below the presumed objectively normal total costs (*i.e.*, below the total costs of the presumed marginal producer) because a change in data, for instance, in legislation or in technique can at any time transform the presumed marginal producer into a submarginal one so that the market price will equal the new (unexpected) objectively normal costs.

This example assumes that there was a change in the objectively normal costs. It can, however, happen under dynamic conditions that on account of a certain panic, some goods are hoarded in such a way that a marginal firm reaps a profit which implies that the respective realized prices were for a certain time above the objectively normal costs, that remained unchanged. Such a development cannot occur in a stationary economy where any supposition is correct and any action is normal. Furthermore, under stationary conditions any realized market

price must coincide with the subjectively expected price. This is the case from the standpoint of an individual, if the price which he pays equals the price which he is willing to pay. Under such conditions, there can be no consumer's rent whatsoever. This will be the case also from the standpoint of the national economy as a whole, if the realized market price equals the price which the presumed marginal buyer is willing to pay.

Again, under dynamic conditions, it can happen that a price rises above the buying capacity of the presumed marginal buyer who thus is transformed into a submarginal buyer. This problem will be discussed in another context.

In a stationary economy, the whole system of interrelated goods traded in a perfect market is in complete equilibrium since any market price is a normal price and there is no discrepancy between the market value and the corresponding market price. Furthermore, in such an economy, every economic physical or structural subject avoids any change because there is neither opportunity nor motive for him to improve his position by any change in his activity. We know that an economizing individual, conceived as a pure consumer, is in total equilibrium when he equalizes the marginal utilities of the acquired goods with the respective prices, *i.e.*, when he pays a subjectively normal price. If the individual is acquisitive, or a businessman, he will be in total equilibrium if he gets an equal objectively normal net revenue in all branches of his acquisitive pursuit. This will be the case in a stationary economy, because a business concern is in total equilibrium only if it neither makes a profit nor incurs a loss. Since under stationary conditions, there is no multiplicity of costs, any firm in each branch of its activity, earns an equalized objectively normal net revenue, *i.e.*, covers its objectively normal opportunity costs. Even a horizontal differential rent of land would be made impotent by placing an adequate capital value on superior pieces of land. Thus any differential advantage derived from a better location or fertility is wiped out by interest on a comparatively higher investment and the rate of interest becomes the same for everybody. Otherwise such a differential advantage may make the owners of inferior land "restless."

Under stationary conditions, each firm is in total equilibrium since it sells at its lowest average cost. Consequently, no firm will have a motive to expand its business or to contract it. It is evident that since stationary firms have equal costs and since there are no profits, no uncertainty and no change, a stationary economy represents a perfect market and knows no competition in the sense of rivalry. Therefore, there will be peaceful and perfect co-operation of uniform and equally immobile firms.

In a stationary economy, any industry, *i.e.*, the whole body of producers of the same commodity and its close substitutes, must be in equilibrium. This implies that there is absolutely no change either in the size or in the number of existing business concerns or in the quantity and quality of substitutes. In such a case, the whole national economy will represent a changeless system of equilibrated goods and economic subjects.

Under stationary conditions, not only the general price level but also all individual normal prices must be constant. This implies that objectively normal total costs should permanently stagnate since every stable price is a normal price. It is clear that under conditions of total equilibrium all other economic phenomena are supposed to be constant. So the supply of goods will be stable because the flow of production remains entirely unchanged through time. Also demand remains constant since every economic subject is in equilibrium and there is no change either in the number of people or in their subjective scales of preferences and thus in their subjective schedules of demand. In other words, there can be no change in the subjective hierarchy of wants so that there will be no fashion, no advertising and no change in individual taste. Since each individual does not change his treatment of alternatives, his marginal rates of substitution are stable. Supply of and demand for the factors of production are constant and equal at normal prices because the given technical co-efficients, quantity and quality of the factors do not change at all.

3. Since production is constantly repeated according to stable patterns of organization and technology, all products are standardized and their costs of production are stabilized. A fixed amount of real capital and knowledge is reproduced constantly. However, there is no increase in material and immaterial wealth. The question whether a stationary economy knows static interest on investment is controversial. Yet this question may be answered affirmatively as this is done by Robbins and Haberler, because as long as reproduction of real capital remains a private affair some individuals must be remunerated for their willingness to curtail their current consumption. Besides, one can eliminate the differential horizontal rent of land only if there is interest on the lands' capital value, conceived as an investment. A stationary economy must also know some other kinds of saving, such as static and productive storing of goods in order to have a constant even consumption and a constant continuous production.

4. A stationary economy must have neutral money which does not exercise any influence on the economic process since it should not undergo any change. Von Wieser maintains that in

a purely static economy, there can be no discrepancy between money income of a household and the goods consumed by it (necessary saving discounted). In general, there is equilibrium between money income and real income with regard to any economic subject as well as from the standpoint of the national economy as a whole. Furthermore, any income is constant and is used in an unchangeable traditional way. There can be no hoarding or immobilization of spending power. We share Keirstead's opinion that a stationary model presupposes "the neutrality" of the time itself.

5. In principle, the total equilibrium system is congenial to perfect competition because it implies that no economic subject is able to change a constant market price, that there is no uncertainty whatsoever, that competition assumes the character of peaceful interaction, that there is no state interference and that each firm is a total equilibrium firm. Such a model is presented by many modern economists, including J.B. Clark, Pareto, Cassel, Hans Peter, and von Stackelberg. Some economists assume that total equilibrium and perfect competition are instantaneous real phenomena attainable "in the long run." In opposition to all these views some economists such as Edward Chamberlin and Erich Schneider, believe that a static economy should not be considered as completely devoid of monopolistic elements. In particular, Chamberlin contends:

"There is no reason why monopoly of all sorts and degrees should not be present in a static economy."

Such an assumption is possible only with serious reservations. It is difficult to assume that a stationary society would agree to give permanent institutional protection to a distinct monopolistic business concern which will get a revenue that will be very conspicuous "earning of artificial scarcity." Thus the objection is from the standpoint of economic sociology. On the other hand, there will be certain unavoidable constant "monopolistic revenues" provoked by mere inequality in private wealth. They will never exist because of some innovations which cannot occur in a stationary economy, but will be caused by constant inequality in income derived from unequal ownership of real capital. Of course, each stationary family will obtain the same rate of interest, but some families which originally (*i.e.*, in an esoteric sense) owned large real capital and better land will permanently enjoy a larger income and thus a larger consumption. In this connection, one might talk about a "monopolistic revenue," yet such an income could be interpreted also as reward for the constant reproduction of real capital, (*i.e.*, for the function of "re-saving") and might be considered as stationary interest on a permanent investment. The principle of objectively normal net

revenue would not be violated in such a case because wages of management and rate of interest would be equal universally. Thus in contra-distinction to the real dynamic development, the above-mentioned monopolistic revenue would not represent a surplus over the objectively normal net revenue but would assume the character of a permanent and stabilized income.

The total equilibrium system of a stationary economy is, in our opinion, congenial to perfect competition. However, such a system is pure fiction at any time. Besides, a stationary economy rules out "free entry" and "free exit" at the same costs which are compatible with perfect competition but represent a dynamic phenomenon. Thus, there is no complete identity between perfect competition and stationary economy.

6. Far more controversial is the question whether a static economy pre-supposes the employment of all factors of production. Until recent times, there was a unanimous belief that the presence of idle resources including unemployed labor is incompatible with the idea of equilibrium. Thus, full employment and a static economy were supposed to be synonymous. At present, however, some economists, such as Tugan-Baranovsky, Keynes, Alvin Hansen and James Estey, refute this standpoint. Keynes, who first emphasized in an unequivocal way the existence of a spontaneous under-employment equilibrium, said openly that under free competition there could be less than full employment. This viewpoint is correct if one means a temporary "moving equilibrium level" with a low output. If, however, one thinks of a persistent and automatic underemployment equilibrium, one must imagine a stationary economy in which there is complete and automatic rigidity of money wages and the rate of interest. Yet, in this case, under-employment equilibrium must be artificially, *i.e.*, institutionally introduced and protected. This was recognized by Hicks who stressed the fact that in the case of prolonged underemployment equilibrium unemployed labor must be kept out of the productive process. At first sight this could be done easily under static conditions by granting to the constant number of unemployed a constant "social rent" or a fixed dole, provided that the involuntarily unemployed do not make inventions which would lead to an increase in the immaterial wealth of the nation. Since, however, an enforced and prolonged preservation of underemployment equilibrium implies a very strong government or at least very powerful labor unions, such a static economy would not be congenial to the familiar picture of genuine perfect competition. For this reason, it is desirable to identify static economy with full employment. The Keynesian idea of a peaceful and prolonged underemployment equilibrium is congenial rather to an authoritarian dynamic

economy which institutionally neutralizes technological unemployment and thus preserves an artificial although ultimately "unstable" equilibrium.

7. A stationary economy implies that the population is constant. Such an assumption does not infer that there is immortality. Also, all real capital goods are worn out, that is, "die" and are reproduced. Under stationary conditions, people will not die prematurely from natural causes as well as in accidents because their replacement must be regular. If, however, the world economy is not composed entirely of stationary economies, it would be possible for them to die of accidents because anyone could be replaced immediately by an immigrant.

The purely static approach or the theory of total equilibrium was especially developed by Leon Walras and in a lesser degree by Pareto and Irving Fisher. On the other hand, the kinetic model of the national economy owes its development chiefly to Spencer, Pareto, Schumpeter, Marshall, Henry Moore and Alexander Bilimovich.

Some economists, for example, George Stigler, consider a kinetic economy as a dynamic model. Others like Pigou do not share this standpoint, but hold a kinetic economy remains somewhat static because it does not change as a whole. In other words, it represents a peculiar kinetic equilibrium or a motion in rest. Under such conditions, the whole remains changeless but inside of this entity there is a continuous movement which takes place in such a way that any change is entirely counterbalanced by another change in the opposite direction.

A kinetic national economy comprises some lesser kinetic wholes, such as population, general price level and real capital. These wholes are necessarily kinetic. There are some other subordinate phenomena, however, which can be either kinetic or dynamic. For instance, the aggregate effective demand for a certain kind of good, such as a table, can be both. If it is kinetic an increased demand for this good by one individual must immediately be offset by a decreased demand for it by another individual. Otherwise a simultaneous and equal decrease of aggregate demand for another kind of good might counterbalance the change. In the latter case, however, only the general aggregate demand in an abstract sense will become kinetic. On the whole, we may say that a kinetic economy is a system of partial disequilibrium because a single phenomenon, such as individual price, individual good or a single firm, can at any time lose its equilibrium status. Thus, such an economy may be defined as a general equilibrium system in a broader sense but never as a total equilibrium system which is congenial to stationary conditions.

In a kinetic economy, there is only a stable general price level as a "lesser whole" while any individual price may vary provided that its change is quickly and automatically counter-balanced. The total factors of production remain constant but their combination *i.e.*, technical co-efficients, may change. However any major change is not permissible because it will bring about some dynamic repercussions. The same can be said of an eventual change in wants or subjective scales of preferences although not only informative but also a manipulative advertising, in Chamberlin's terminology, may appear. Likewise, no major innovations can be introduced because they will necessarily cause a growth of some economic factors which is incompatible with any static model. For the same reason the population must remain constant. Only its composition may change.

A kinetic economy is much closer to reality than a stationary economy since there are some minor changes, *e.g.*, a change in a crop or in some subjective demand curves. Yet, it is still a very abstract model because under kinetic conditions, no major change in data is permissible. Such a change might destroy the partial equilibrium in which any static whole permanently rests. In addition, the kinetic economy in principle is a very distinct full employment structure.

The third step of the scale of approximations and the first type of dynamic economy is the uniformly progressing economy.

1. This is an economy of progress because there is a growth of different economic phenomena and in particular of total production. Technological productivity rises and causes an increased formation of annual social product. There is an increase in knowledge which accelerates the awakening of natural latent resources. Since such an economy implies progress, we cannot share Boulding's contention that it is less realistic than a kinetic economy which rules out any growth.

2. This economy is uniformly progressing because there is a uniform growth of population which is proportional to the simultaneous increase of production. Consequently, if the annual percentage increase of the population is given, it is possible to know exactly the rate at which the national economy is progressing. In any case, there is a definite rate of increase in the social product which is always constant since it is assumed that the population grows at a constant rate. In this case, the increase of production will be absolute and not relative because the product per capita of population remains the same.

3. Real capital is not only maintained or reproduced but also systematically increased for the benefit of the growing population. However, this increase is strictly proportional to the

annual growth of social product and thus to the growth of population, both of which proceed at a constant rate. Consequently, real capital increases at a constant rate so that its growth is uniform. The technical co-efficients undergo only a moderate alteration because otherwise they might violate the principle of proportional growth. The same is true of knowledge which can increase only at a constant and modest rate. The process of dynamic saving becomes very distinct in such an economy since the available factors of production are partially shifted to the production of additional real capital goods. Thus, in this case, satisfaction of current wants is restricted in order to enable real capital to increase at the same rate as total production. One can assume that there will be full employment of labor and real capital because any major disturbance is incompatible with uniform and slow development.

The greatest contributions to the theory of the uniformly progressing economy were made by Cassel and Alvin Hansen. Such an economy will come closer to reality if it is assumed that the rate of growth of the social product which is proportional to the simultaneous growth of population is not constant or in other words, does not repeat itself year in and year out, but grows continuously. Such an economy would be uniformly progressing only in the sense that the continuous increase of social product and of real capital would remain proportional to the permanent and likewise uneven growth of population. In general, any economic phenomenon would increase in such a case at a constant rate only during the given period. The uniformly progressing economy would be in fact progressive if the constant rate at which population grows was smaller than the constant rate at which grows the total production.

The second model of dynamic economy is represented by the economy of "consecutive equilibria" which some economists, in particular Pareto, Herry Moore and Hans Peter, define as "comparative statics." Schumpeter and J.B. Clark speak of "successive equilibria" while some other influential economists, including Leon Walras and Francis Simiand prefer to talk about "consecutive disequilibria" which practically means the same thing.

This model of dynamic economy assumes that the life of a national economy does not develop evenly or proportionally but involves a flow and periodically attains a short-lived static status or a "temporary equilibrium." There emerges a "moving equilibrium" under full employment when in Schumpeter's terminology, all prices and quantities take for a moment their "equilibrium values." It might be better to say that they take their "normal dimensions."

Since such an economy is subject to the forces of progress, the given equilibrium will be distorted by a change in some phenomena, such as a radical improvement in methods of production or a rapid increase in wants. Consequently, a status of disequilibrium will ensue. Since, however, it is assumed that under normal conditions the dynamic economic life is a process of organic growth, it will have to adapt itself rather quickly to the changed data so that a new equilibrium, normally on a somewhat higher level, will come about. Since the new equilibrium is based on a somewhat higher level, the entire period symbolizes a more or less normal development so that it is not uprooted with regard to the past because of a major disturbing event, such as wild inflation, or social revolution. For instance, comparing money wages, and national money income, in the United States in 1939 and 1954 shows how they were raised to a higher equilibrium level. In this period, there was no "uprooting" event in America. Normally a change in the level will not be very great because quite a few prices and wages are sticky. The newly reached equilibrium will be swept away in a later comparatively rapid development by some new changes in economic data and thus will be followed by a new state of disequilibrium and so on. For this reason, under the above assumption, there is no difference between Schumpeter's statement that there is a scale of consecutive equilibria and Simiand's contention that there is a scale of successive disequilibria. Both phenomena are strictly intermittent. One puts emphasis on consecutive disequilibria if one wants to stress that any uneven development conceived as evolution is turbulent. One can, however, eventually develop a theory of consecutive equilibria without admitting the presence of evolution. In this latter case, there will be a rather static picture.

Hans Peter says it is possible to develop a static theory of dynamic economy by reducing successive equilibria to a single phenomenon, "trend" which, however, in its essence is itself a dynamic phenomenon because it represents the general line of development, which eventually can be negative.

It is assumed that such a trend is comparatively static so that separate consecutive equilibria oscillate around it sometimes in a kinetic way by counterbalancing one another. For this reason, cyclical fluctuations may be considered as deviations from a comparatively static trend line. In general, the second model of dynamic economy belongs in a large measure to the theory of business cycles and cannot be here discussed in detail. The model of consecutive equilibria pertains normally to the status of full employment. Nevertheless, one can retain this picture if one assumes that a certain amount of unemployed labor is constantly neutralized in an institutional way.

The model of a purely dynamic economy is not very well

developed. In fact, even its very existence is not accepted unanimously. There are, however, some influential economists whose works come very close to such a model, *e.g.*, Veblen, J.M. Keynes, J.M. Clark and Henry von Stackelberg. On the other hand, Cassel takes an evasive platform while some authorities, such as Henry Schultz and Hans Peter, avoid going beyond the dynamic scale of successive equilibria. The assumptions on which the most dynamic model of national economy is based are as follows :

1. There is no organic or natural growth of a national economy. Innovations, in particular, actualized technical inventions, are so turbulent that suddenly occurring dynamic changes do not bring about a new equilibrium level automatically. On the contrary they provoke some nonrecurrent transformations or cause some structural changes which preclude any process of "statification," unless a strong state institutionally creates or at least helps to keep for a certain period an artificial equilibrium.

Pantalesni very clearly stated the stormy character of a purely dynamic economy when he said that in such an economy there will be no equilibrium in a conventional sense but fluctuations may go indefinitely.

2. Even if genetic changes were less radical, the frequency of oligopolistic elements would have prevented the modern dynamic economy from having any natural or automatic full employment equilibrium, so that such an economy could enjoy only a partial institutionally established underemployment equilibrium. This idea is typical of von Stackelberg. Also Irwin von Beckerath considers a non-automatic "conventional" equilibrium, while Keynes on the contrary, assumes that an underemployment equilibrium can be established and kept without any institutional interference.

3. The purely dynamic economy is characterized by enforced idleness of natural resources (*i.e.*, by the presence of unutilized resources which are already awakened, subject to valuation and ought to be used) as well as by the enforced involuntary underemployment of labor, for instance in the Keynesian sense when an unemployed worker is unable to get a job by agreeing to accept a lower money wage, even if the prices are not reduced simultaneously, *i.e.*, when he is willing to accept remuneration below the existing real wage.

4. In a purely dynamic economy there is a social mutation because radical technological and purely economic changes affect the social background of economic process and cause a qualitative evolution of the basic socio-economic institutions.

5. According to dialectics, it is assumed that a major change in quantity necessarily alters the quality of the dynamic phenomenon and that a discrepancy between dimensions of two interrelated factors, *e.g.*, natural interest and money interest, or between two quantities of the same factor leads to processes which either deepen the given dynamic phenomenon, (for instance, in the Wicksellian "cumulative process") or on the contrary tend to abate it. So an increase in the size of firms can bring about the formation of a cartel, while the latter case is illustrated by the theory of the multiplier which shows that the difference between the actual in part artificially created employment of productive agents and the potential employment congenial to the normal full employment status of production gradually decreases in spite of some leakages when injected artificial spending power acts as a pump primer in a national economy which suffers from a deficiency in private initiative.

6. Contemporary purely dynamic economists, such as Veblen, Gordon Hayes, Schumpeter and Wicksell are interested in such highly dynamic modern problems as credit creation, inflation of formal capital, discrepancy between social product and the aggregate spending power multiplier and expectations of different kinds.

We agree with Erich Schueider, Banmöl and Forstmann that expectations used in a dynamic model (*e. g.* anticipation of a price) are as a rule "evolutionary" that is they have their roots in the past. Yet, in principle also a revolutionary growth of a variable is a dynamic phenomenon- which is correctly stressed by William Krelle.

According to these characteristics of the purely dynamic model, Lord Keynes is ultimately a dynamic economist in spite of the fact that Haberler and Ray Harrod have pointed out that the theoretical skeleton of his "general theory" is rather static. However, such a contention did not prevent Haberler from admitting that the Keynesian system lends itself to "dynamization" and gives a tremendous impetus to building a dynamic model. Even under a short run underemployment equilibrium, as propagated by Keynes, there is pre-supposed an artificial or institutional neutralization of some dynamic factors, although he personally seems to have disregarded this fact.

In our treatment of the purely dynamic economy we identified dynamics with a structural change (*i. e.* a progress or retrogression) which brings our views close to those of J. B. Clark and Harrod. Simultaneously our treatment of static economy agrees with the frequently cited proposition of Hicks and Lundberg that in the case of a static economy "one" does

not trouble about the dates, because any static model as an ultimately fixed structure necessarily pertains to a definite period of time. On the other hand, we do not care much for the contention of *R. Frish* and *Samuelson* that a system is "dynamical" if "variables at different points of time are involved in an essential way," because if we assume for example like *Sismondi* that income spent in the given period of time was earned in the preceding period, we still can discuss this problem in a static way unless our assumption was that we had to do with two different stages of development which imply a structural change (evolution). Since any evolution means that the given phenomena are organically linked with the past and the future, we may ultimately corroborate *Baumol's* contention that "Economic Dynamics is the study of economic phenomena in relation to preceding and succeeding events."

CHAPTER IX

DEMAND AND SUPPLY

Demand means that a want is actualized. Yet, it does not imply that the respective want will be gratified. In the latter case, the given demand must be effective, that is, its bearer must be willing and able to buy the respective good. Consequently, there are two assumptions for an effective demand, namely :

1. Its bearer must possess the necessary spending power since a person who cannot pay the market price is unable to satisfy his want. Thus, free individual control over spending power has a weak point. This is particularly true under capitalism where distribution of national income is very unequal. For this reason, Cassel and Samuelson are right when they maintain that from a purely economic viewpoint, a rich man's dog can obtain a piece of bread more easily than a penniless human being. In Soviet Russia, the same negative development appears; only here membership in the Communist Party provides a larger share in the aggregate spending power.

2. The desired good must be available; otherwise man's purchasing power cannot be actualized as genuine spending power. Under abnormal conditions, *e.g.*, in case of war, effective demand often depends upon an individual's purchasing power which is not derived from money income or capital disposal but from a peculiar right defined as "priority." Rationing likewise restricts effective demand.

The demand of an individual for a particular commodity is expressed in terms of the quantity of the good which he is willing to buy at the given price in a particular period and in a definite market. In general, demand is always at a certain price. Consequently, any individual tends to develop a subjective schedule of demand for each good which shows how many units of the good the respective individual is willing to buy at various prices if all other data remain constant. The fact that a change in price affects effective demand for the respective commodity in a distinctly quantitative way is defined as "demand function." A subjective schedule of demand can be translated into a demand curve since there are two independent variables, namely, price and the quantity of the good which will be purchased at various prices. The first demand curves were drawn by the French engineer, A.J. Dupuit, and the German economist, Hans von Mangoldt. A regular demand curve slopes downward from left to right. It is an indifference curve that takes money vs.

commodity. One can develop a demand curve only under two assumptions :

1. The intention of the individual to buy the good is continuous, that is, he really has a subjective schedule of demand.

2. The price changes are accompanied by definite even variations in amounts to be purchased. When variations in amounts occur in "large jumps," the demand schedule can be represented only by a series of dots, but not by a curve. This implies that the application of demand curves is rather restricted.

The difference between subjective scale of preferences and subjective schedule of demand can be summed up as follows :

1. There is only one subjective scale of preferences for the given individual at the given moment. On the other hand, he may develop a subjective schedule of demand for each product he wants at any one time.

2. Subjective scale of preferences considers prices which an individual normally is willing to pay with regard to the marginal utility of the respective goods. On the other hand, a subjective schedule of demand considers prices which an individual is ready to pay for the good in respect to different quantities which he may obtain.

Both devices are extremely dynamic and strictly interrelated. A subjective schedule of demand shows approximately how the subjective scale of preferences is affected when expected price proves to be wrong. If, for instance, a scale of preferences shows that an individual is ready to pay four dollars for the item "shirt" with regard to its subjective use value and his respective schedule of demand simultaneously indicates that he will buy two shirts if the price amounts to two dollars each, his scale will not be changed if he really buys two shirts at two dollars each, since he will have spent four dollars on the given item. If the market price is three dollars, we may conclude that he will not buy the second shirt but will allocate the released spending power of one dollar (which symbolizes his consumer's rent) to the satisfaction of another want. Thus, the subjective scale of preferences stands in a close interaction with all subjective schedules of demand.

Aggregate or total effective demand for the good is simply a summation of all individual effective demands on the market, at a certain price, at any particular moment. For example : there is a constant price, namely five cents for an orange and there are five individuals with different demands

$$\begin{array}{ccccccccc} & A & B & C & D & E & & & \\ & 3 & 4 & 1 & 3 & 2 & - & 13 & \text{(Aggregate demand in units)} \end{array}$$

If there are thirteen units available, no complication will ensue. If there are only ten units, the consumers C and E will be excluded from the market provided that the other three persons do not hesitate and satisfy their demand immediately. Otherwise, for instance, D would have no chance of buying the good. In real life, one cannot tell who will be excluded from the market. If the good is not available in necessary quantities, the aggregate demand will be larger than the respective total effective demand.

If the question arises : What kind of "quantities" does a schedule of demand translated into a demand curve mean, it is necessary to distinguish between two possible cases :

1. Subjective schedule of demand means quantities which the individual is willing to take at different prices. Such a scale is a distinct a priori phenomenon.

2. An aggregate schedule of demand may mean quantities of the good which were purchased at different prices. In this case, the schedule of demand is an a posteriori phenomenon. A business concern normally develops an a priori schedule.

A change in the individual effective demand can be the result of one of the following factors :

1. A change in money income. When this income increases, assuming the individual does not save or hoard, the subjective value-in-exchange of money will distinctly decrease. Consequently, the individual will be able to revise his subjective schedules of demand and thus may buy more of the goods which he consumed at previous prices or he may purchase some other goods which he could not buy before. In the latter case, he would simply expand his subjective scale of preferences.

2. A change in the subjective scale of preferences without any simultaneous change in income. This happens, for instance, when the taste of the individual suddenly changes because of an aggressive advertisement or gradually alters as he grows older. Each of his subjective schedules of demand may experience a sudden change at any time.

3. A change in the system of individual prices paid for the goods which are wanted by the individual. This is especially true when an individual lives on a very modest income. In such a case, any increase in the price of the means of subsistence will lower his effective demand for all less essential goods.

4. Availability of other goods. For instance rationing which restricts demand for a certain good usually releases effective demand for another commodity which is normally less wanted. Besides, when a fancy article become cheaper, it often attracts

a portion of an individual's money income to the exclusion of another luxury good, such as caviar.

In general, demand varies inversely with price. Sometimes this generalization is called the "law of demand." Paul Samuelson suggests the term the "law of diminishing consumption." In real life, however, there are quite a few exceptions from the above-mentioned norm. Not every consumer is rational and completely informed as to the quality of the purchased good. Since many buyers assume that any low priced good is inferior, some sellers speed up slow selling goods by raising their prices. Some well-to-do persons consider it below their dignity to purchase low priced goods, a tendency which was defined by Veblen as "conspicuous consumption." Very often the same good costs less in the basement of a department store than on other floors. Besides, one tends often to buy more at a rising price if a major inflation is expected or, on the contrary, to buy less at a declining price if it is assumed that the prices will experience a further decrease.

Under normal conditions, however, when the price increases, the effective demand of an individual for the good decreases, provided that all subjective data, such as income and taste, do not change. This occurs because under such conditions, there will be a discrepancy between the price which the given individual has to pay and the hedonic index which he has assigned to the respective good. If he raises his estimation of the commodity and agrees to pay a higher price, he normally will incur some opportunity costs. The more the price rises, the greater these costs become because the buyer will have to forego a good with a greater marginal utility when he acquires the given commodity.

The fact that the quantity of a good which will be acquired by the bearer of the actual effective demand is a function of the current market price is defined as "demand function." The rise in individual demand for the good means that he is willing to purchase the good at every price in a larger amount than before so that his entire demand curve moves to the right and upward. This is not the result of a lower price on the same curve.

"Income elasticity" of demand means in general that the effective demand of an individual reacts differently with a change in income. If an increase in money income raises spending for consumption goods, the income elasticity of the individual's entire demand is great; if, on the contrary, it stimulates saving and especially hoarding, the "income elasticity" is low. From the standpoint of income elasticity of demand, it is possible to distinguish between inferior and superior goods. A good is inferior when an increase in the money income of an individual leads

to a decrease in his demand for that good, as for example oleo-margarine or cheap textiles. On the other hand, luxuries are distinct superior goods since demand rises when income increases. All such goods possess a high degree of income elasticity. The goods are rivals or competing if the increase in consumption of one good is associated with a decreased demand for another good. For instance, grapefruits and oranges directly compete with each other. When there is a joint demand for two goods, such as pen, and ink, the given goods are said to be complementary in demand or cooperating. If a change in the demand for one good has little or no effect on the other good, these goods are said to be "independent." Also some differentiated products (brands) like automobiles and cigarettes are sensitive to the principle of income elasticity of demand.

The price elasticity of demand is a measure of responsiveness of consumer's effective demand, *i.e.*, of purchases to price changes. Sometimes a slight change in price affects one's demand for the respective good. The price elasticity of demand is expressed by the subjective schedules of demand since behind them stands the law of diminishing marginal utility.

Elasticity of demand is nil or demand is inelastic when a fall in price does not create an additional effective demand for the given good and vice versa. This usually occurs in one of the following cases :

1. Expenditure on the given article is extremely low. For instance, a poor man can buy as much ink as he wants. Here the want is quickly gratified to the point of satiety. In the same category of goods are postage stamps, matches, salt and many kinds of spices. Only when the respective price increases abnormally, for instance, as in the case of a major war, man's demand for such goods may shrink.
2. If the respective want is urgent or vital, effective demand is inelastic, for example, the demand for water in a desert or for cigarettes if one has the habit of smoking. Here also belongs the demand for food in general, but not for a particular food item.
3. In the case of joint demand when the demand for one good is inelastic, for example, sugar is needed for most essential drinks such as coffee and tea. Since the demand for coffee usually is inelastic the demand for sugar is affected likewise.
4. Imperfect knowledge and advertising tend to make the individual demand less elastic.

If the price is so high that it is in principle prohibitive for the individual, as in the case of demand for a genuine diamond by a poor man, one should say that his demand is simply un-

realizable because he will be unable to react upon a change in price.

Elasticity of demand is equal to one or unity when a slight fall in price produces a proportional increase in the effective demand for the respective good or vice versa. In such a case, the total amount of money spent on the good remains constant. If, for instance, the price falls, one pays the same but buys more of the good. This case is very rare in real life and extremely subjective. In this case a want is only partially satisfied.

A demand is elastic when a slight change in price produces a proportionately greater or smaller change in the respective demand. Two cases are possible :

1. Elasticity is less than unity. Under such conditions when price rises, demand decreases comparatively little so that the total amount spent on the respective good still increases. For instance, when the price of bread rises an individual decreases his demand for it in a very insignificant way, so that he will spend a larger sum of money on this essential food item.

2. Elasticity is more than unity. Under these conditions, when a price increases the demand shrinks so seriously that the total amount spent on the respective good likewise decreases. This may happen, for instance, to man's demand for travelling accommodations.

Demand is elastic in the following cases (the reverse with regard to inelastic demand);

1. Expenditure on the given article is costly. The major portion of the individual's budget is involved. This implies that the more expensive the good, the stronger is his response to any change in its price. To this category belong clothes if the income of the individual is modest.

2. If the respective want is not urgent, in other words, when the article is not essential. Social conditions are usually decisive here, for instance, customs as well as the chance of substituting or replacing the good in question. The availability of substitutes makes demand for a product elastic.

3. When the respective good is durable or repairable as; for instance, the price of shoes rises, an old pair of shoes is worn longer and may be repaired several times.

4. Demand is more elastic if the good is subject to the law of diminishing marginal utility and the respective price rises. The reason is that under such conditions the point of satiety in respect to the good is quickly reached so that the individual becomes reluctant to acquire the additional units at a rising cost. On

the other hand, the principle of diminishing utility makes demand less elastic when there is a decrease in price because in this case the individual will be unwilling to acquire additional units of the good in spite of a lower cost unless this good has multiple uses. When butter becomes less expensive the demand for it may increase because it can be used not only as a spread for bread, but also as a supplement to potatoes, or for cooking. If the demand for an essential good is completely inelastic so that this good for some reasons, such as an obsession or lack of substitute, is not subjected to the law of diminishing marginal utility, the rise of its price will stimulate its sales. For instance, Paul Samuelson maintains that the higher the price of potatoes, the greater the demand on the part of poor families who may give up meat and consume more potatoes than before. It is evident that this can happen only if the so-called "substitution effect" is not present.

Elasticity of effective aggregate demand for a good is determined by elasticity of effective demand for the good on behalf of individual economies. So aggregate demand for real necessities is inelastic because the majority of the population cannot decrease the demand for them. These goods are physically essential for the average man. Their high price is a sign of poverty. On the other hand, the aggregate effective demand for comforts is elastic because an average man enjoys them although they are non-essential for him. The aggregate effective demand for luxuries is inelastic because only a "representative group" is concerned with it. From the standpoint of a poor man these goods bear an inutility. A rich man, however, does not care if their prices rise. From a genetic viewpoint, aggregate effective demand becomes gradually more elastic because luxuries and necessities develop into comforts. Luxuries do this directly while necessities become less vital and thus closer to the comforts on account of larger production, appearance of substitutes, and diversification of wants. It is evident that comforts are transformed into necessities; yet, this does not violate our proposition because the new necessities as "goods of civilization" appear in a larger amount so that aggregate effective demand for them is rather elastic. Such a transformation is a sign of wealth; as in the case of automobiles in the United States. Aggregate effective demand is often a complex phenomenon. For instance, such a demand for bread which is in principle a distinct necessity, can develop in two following ways :

1. When bread disappears for some reason, its objective utility becomes conspicuous and the buyer is willing to pay any price. Demand here is strictly inelastic.
2. When bread is abundant (which is the normal assumption

tion), demand for it is in the case of a price increase comparatively elastic because one satisfies his desire for it to the point of satiety.

Since a fall in the price of any staple product encourages purchases by speculators, one must admit that pure speculation raises elasticity of aggregate demand. Such a speculation, is, however, not a sign of progress.

From the standpoint of the national economy as a whole, demand is especially elastic if the fall in price creates a new or additional demand for the respective good on the part of those households which acquired it with a great deal of difficulty or were simply unable to buy it before. In such a case, any cheapening of the given good brings it within the "price range" of the lower income groups. This is especially true when luxuries develop into comforts.

When low competitive prices are combined with moderately elastic demand, the industry can experience drastic price declines. Ernest Patterson rightly says that this is the plight of agriculture during a period of abundance. On the other hand, some industries, such as electric utilities are confronted with a comparatively inelastic demand and controlled price so that they tend to have a fairly constant prosperity.

When a change in price is intended by a firm, it is important to compute in advance approximately the expected change in effective demand. This is done frequently under the assumption that all other prices remain constant. Even a small retailer, such as a grocer, should act in this way, provided that he is not a purely competitive seller. The large modern "monopolistic" firms have special employees designated as "business analysts" who predict the turnover at any possible price while considering all necessary data, like imports, change in national money income, etc. If such a manufacturer decreases the price while demand for his good is not sufficiently elastic, *i.e.*, below unity, he will have a larger turnover (a greater number of sales) which, however, will not compensate him for a decrease in the gross revenue caused by lower price. One receives, for instance, more from selling a hundred units at five dollars than one hundred twenty units at four dollars. On the other hand, one cannot profitably raise the price unless the demand is inelastic so that, one gets more from selling a hundred units at four dollars than fifty units at seven dollars. This problem is especially important for a pure monopolist. When a government increases import custom duties or sales tax, it may decrease its revenue unless the aggregate effective demand for the respective goods is sufficiently inelastic.

Demand can be satisfied only if there is a certain *supply* of goods which can be acquired by the individual who has the respective aggressive wants and who could actualize them as far as

his spending power is concerned. Effective supply is the amount of the good which one seller or a group of sellers stand ready to offer during a given time in a particular market at a definite price. In other words, it is a supply actually brought to the market. On the other hand, a supply is potential if it is not actualized but is available only in principle. Such a supply is determined by storage of the given kind of good and by the productive capacity of the respective producers.

An individual seller who can store up his merchandise usually develops a schedule of supply which shows a "reservation price," that is, a price at which he prefers not to sell the good, as well as the prices which he is willing to take while selling different amounts of the commodity. This schedule can be translated into a supply curve based on two variables: amount of the commodity and the price at which the individual is ready to sell this quantity. In contradistinction to a demand curve, any regular supply curve inclines upward from left to right and not downward because the supply does not change inversely with the price. On the contrary, when price rises, the supply normally increases and vice versa. The development will be abnormal, that is, supply will decrease when price increases under two assumptions only:

1. If the good is especially dear to the seller for some sentimental reason (a case pointed out by Leon Walras).

2. If the seller fears that he will be unable to replenish the stock at the given costs (a case typical of a major inflation) or if he anticipates a further increase in price (a typical case when the armament industry begins to attract the productive agents). When a competitive producer who can store up his merchandise develops a supply curve, he considers the various probable prices and determines the quantities of the good which he will be ready to sell at these prices. Since he will be unable to fix the price, his supply curve, in the last analysis, is his subjective autonomous plan. The estimation of the expected total demand is almost of no importance to him. On the other hand, a seller monopolist who is able to fix the price but cannot determine the effective total demand for his produce will develop a supply curve in conformity with the expected aggregate demand curve. In this case the supply curve shows the prices which the producer not only is willing to take for a definite amount of product but also actually requires or at least hopes to be able to enforce.

A potential supply influences the price of the product much less than the effective supply. Yet, while its influence can be different, it is nevertheless of some importance, namely:

1. In the longer run it can depress the price of the product

for a psychological reason if the people know that the good is available.

2. In the short run, it can enable the seller to profit by a sudden increase in the effective demand for the good. In the long run, however, the selling of stocks will necessarily lower the price. Besides, in the meantime, the supply of the good will increase through a rise in its production stimulated by the increasing price. This implies that there will be a rise in the amount offered but no long run increase in price. Thus, potential supply in the sense of capacity to produce more of the good may lower its price not only for a purely psychological reason.

Elasticity of supply is a measure of the responsiveness of producer's effective supply, *i.e.*, of the amount of the good actively offered for sale because of price changes. When the sellers are unresponsive to a change in the price of their product and thus do not change the amount of their offerings, supply is inelastic. On the other hand, when supply is elastic even a slight increase in price will induce the respective sellers to make larger offerings and vice versa.

The elasticity of supply can be of different degrees. One should distinguish between the following cases :

1. When the given good is highly perishable in a physical sense as, for instance, most vegetables and fruits, a competitive seller of such a good will dispose of the entire stock at whatever price it will bring. This is especially true when the seller has no facilities for cold storage. In such a case, the supply is distinctly inelastic even in the short run. If the seller is not actually competitive, he sells his perishable product at a higher price than otherwise by decreasing its supply and by allowing the rest of his stock to spoil. Here supply becomes elastic. When the commodity is perishable "in an institutional sense" because it is liable to a short-lived fashion, its supply becomes inelastic and it is subject to a forced sale at any obtainable price. One can, however, make it elastic by shifting the supply to another city. This is why the larger retailers tend to have quite a few business branches. One speaks of "forced sales" in still other cases when, for instance, the entire stock is liquidated as in bankruptcy or when the seller urgently needs the money. The latter case is especially frequent when small storekeepers need cash in order to pay their taxes. In all these cases, the supply is definitely inelastic.

2. When the good can be stored, as for instance, grain, the respective seller is in a much better position even if he is unable to influence the volume of production of the commodity. This is especially true of such a good as grain since an individual produces

it only on a comparatively modest scale. In such a case, the seller may apply the reservation price, that is, may fix a figure at which he would rather hold than sell. In this way, the supply of the good will become elastic.

3. Supply has a high degree of elasticity and the respective firm is in a favorable position if this firm produces the good and simply refrains from producing more of it when conditions of demand fail to fit in with its supply schedule. It is evident that supply is less elastic when production is very mechanized, that is, involves a large quantity of fixed real capital because a downward adjustment (*i.e.*, contraction) of production in case of a falling price becomes very difficult.

The supply of the products of the industry will be elastic if an increase in price under free competition causes an increase in output which does not raise the average costs of the marginal firm very much. Otherwise, the ensuing rise of price will not keep pace with the growing effective total demand for the product which permitted only a slight increase in its price. Besides, the expansion of output under cost progression usually means that when an increase in supply of the good reduces the price, this price will be higher than before. On the other hand, an industry enjoying cost digression would, in such a case, experience only a short-lived initial price rise which would be followed by a decline to a level lower than that which previously existed. In other words, the supply of the produce of such an industry will be quite elastic.

This supply of the produce of the industry is elastic if the entry for new firms in this industry is not conditioned by a considerable increase in the marginal unit costs and average costs of the marginal firm. Elasticity is very high when a minimum increase in price causes flotation of a large number of new firms. It is evident that this cannot happen when there is a distinct cost progression and the new firms will have to work with factors of poorer quality and on less advantageous sites. Besides, elasticity of produce of the firm or industry may be affected by the fact that their supply is not reversible. In other words, one can expand output but will meet difficulty in contracting it. This happens especially because of specific productive agents which depreciate as soon as they become idle. Sometimes, however, the lack of complementary productive factors handicaps the expansion of an industry. For instance, the rather recent textile industry in the American southern states could not attract the skilled labor of New England but had to train its own skilled labor, thus making its development slower and more complex.

Elasticity of supply in many cases is influenced by interest charges which would accumulate during the period of idleness or

storage. Such considerations are especially valid in extractive industries since sometimes it can be advantageous not to use mining property for a long duration and in fields where storage is the normal procedure. A ten-year-old wine in principle, is more valuable than five year-old product but the difference must be enough to cover not only the storage charges but also the imputed interest on the value of the stock which represents an investment. A high interest rate may eventually decrease elasticity of supply.

CHAPTER X

MONEY COSTS AND THEIR INFLUENCE UPON THE OUTPUT UNDER FREE COMPETITION

Any effective demand must bear all objectively normal costs that are incurred. In other words, effective demand has to pay for the productive agents which were used in the production of the desired good. The main idea of this cost principle is that the factors of production are scarce so that no demand should be satisfied which cannot pay for them; otherwise, the factors will be displaced or used in a wrong way. This principle can easily be observed by a stationary economy because neither the prices of the factors of production nor the prices of consumption goods would change so that they could be easily adjusted to each other. In such a case, the price of any good would equal the respective total costs of production. In other words, each commodity would be sold at its objectively normal price. In any dynamic economy the situation is more complex because the prices paid for the productive agents and those paid for the respective final consumption goods may eventually disagree. Besides, in real life, there are some intentional deviations from the above-mentioned main cost principle, namely :

1. Some wants are satisfied in a purely collective or a semi-collective way. In such a case, an individual who acquires the material good or service bears only a portion of the respective total costs or does not cover the costs at all, as, for instance, a poor person exempted from taxation who visits a zoological garden.

2. When a producer at home is institutionally protected and is able to restrict his sales to the consumers who cannot turn to other sellers and thus represent a comparatively inelastic effective demand, he may charge a much lower price abroad where the demand for his product is more elastic. Under such conditions, his foreign customers cover only marginal unit costs computed without overhead. Yet, such a price discrimination in favor of the foreign customers, known as "dumping" increases the firm's turnover and procures foreign exchange.

3. When a monopolist introduces on the home market the same principle of price discrimination or "class price" some of his customers bear a larger or smaller portion of the incurred costs than those required by the cost principle in question. For instance, residential users of electricity usually

pay higher rates than industrial customers. Under such conditions, one is charged either according to his ability to pay or in conformity with his comparative significance as a customer. Also some direct services, in particular those of a surgeon, are subject to this principle. Here each group of customers represents a "non-competing group" so that there is unfree competition on the demand side.

4. A government makes it possible for an industry which is unable to cover its objectively normal costs to do so by subsidizing it and thus enables the buyers to disregard their "functional obligation" to observe the main cost principle.

In contradistinction to the market price, which tends to be uniform, the costs of production incurred by different individual economies tend to be dissimilar. In other words, under dynamic conditions, there is a distinct multiplicity of costs versus an eventual uniformity of price. In a dynamic economy, the multiplicity of costs can be caused by the following factors :

1. Difference in transportation costs in connection with the difference in location. Such a differential advantage hardly ever is entirely eliminated by the eventual tariff discrimination or by a higher capital value of the owned land. This constitutes an "external cost saving factor" for a superior firm or farm.

2. Some firms can reduce their total costs if they own raw materials at the source, *e.g.*, coal mines, or means of transportation or financial institution. Such a differential advantage represents an "intermediate" cost saving factor.

3. The size of the firm or its superior management or "rationalization" may increase output at the same total cost. This will bring about lower average costs. They can also decrease eventually total costs without changing the amount of output. In all these cases, there will be an "internal" cost saving factor.

Only in stationary economy in each industry can the principle of uniformity of costs prevail. The sole real difficulty here presents a differential horizontal rent of land as a logical category. Yet, if this rent is caused by a superior location, it can be wiped out through equalization of transportation costs by means of a constant tariff discrimination. Thus, costs of the superior producers will be increased and made equal to those of inferior producers. If fertility of some pieces of land increases output and for this reason brings a larger gross revenue, one can shape their capital value for ever in such a way that total costs of the superior producer will be raised by a higher interest payment on his investment although the interest rate will be the same for all. In the latter case, the average unit costs of both producers will be equaliz-

ed since interest on one's own investment has to be considered as a genuine cost.

Let us now turn to the costs of production conceived as money costs and viewed from the standpoint of an individual economy. There are the following kinds of costs :

1. *Fixed costs*, representing that part of total costs which is independent of output. In other words, they do not change when the volume of production changes. If the gross revenue of the firm is not large enough to cover total costs, the fixed costs or at least their portion will not be met in the short run. This is why Marshall defined them as "supplementary" costs. All fixed costs are distinctly permanent such as salaries of indispensable employees, interest on the cost of equipment, interest on a long term borrowed capital and wages of management. These costs are incurred even if the business concern is temporarily closed so that if a firm does not produce, its loss will be equal to the fixed costs. Such costs are almost exclusively supplementary costs in the Marshallian sense.

2. *Semi-fixed or intermediate costs* of a different degree, as, for instance, amortization, *i.e.*, writing off depreciation, interest on medium term borrowed capital, expenditure on heating and lighting, taxes linked with the output, advertising, and expenditure on lubricating oil. All of these costs change somewhat when the output varies. It is evident that a growing production wears out the fixed real capital goods more quickly, raises the burden of taxation, for instance social security tax, and increases advertising. Yet, the character of this type of costs is not uniform because amortization is treated mostly as a supplementary cost while, for instance taxes must be paid in a regular way. These costs represent an intermediate kind and a category by itself because, although they are not constant, they do not disappear when a business concern is temporarily closed.

3. *Variable costs* which change considerably and in proportion to the change in output. Marshall defines them as "prime costs" because they must be covered even in a short run. Of course, they do not absorb all prime costs since, for instance, the wages of a janitor representing a fixed cost likewise belong to this category. Therefore, it is a fallacy to assume that every fixed cost is a supplementary cost. As distinct variable costs appear, for instance, wages of the ordinary factory workers, cost of raw materials, such as productively consumed cotton, costs of auxiliary material, as productively consumed wrapping paper, and interest on short term borrowed capital. All of these costs cease to appear when the given factory is even temporarily closed.

The total costs of a firm are composed of these three different kinds of costs. This implies that there is a multiplicity of

costs, also in a restricted intrastructural or internal sense. Yet, usually when one says that costs are multiple he means that in a dynamic economy, different firms are in different positions in respect to their total costs since some firms can produce their merchandise at a comparatively lower costs because of various cost saving factors. At the same time, each modern firm has "heterogeneous" costs. From a scientific viewpoint, the total costs of a firm include the objectively normal net revenue composed of the entrepreneur's objectively normal opportunity costs pertaining to his effort, investment and under some conditions also to the services of his natural land. When total costs are divided by output, one gets so-called average costs. If one divides fixed or variable costs by output, the result will be "overhead unit cost" or "variable unit cost" respectively. The concept of marginal cost is very important, marginal costs are determined by an addition to total costs resulting from increasing the input by one more unit. The same procedure with regard to output and to total revenue will fix the actual marginal product and marginal revenue which are of a great importance in the theory of price formation. It is necessary to note that in the short run input is determined by the bundles of variable agents (labour and materials) that are added to the stable system of fixed real capital goods. It is assumed that in the period of six months to two years fixed real capital is rather inflexible.

Since the costs of a firm are non-homogeneous, they are differently affected by change in the output. If we assume that output increases, the various kinds of costs will behave as follows :

1. Total fixed costs will remain constant but overhead unit cost will decrease because fixed costs will be spread over a larger amount of produce. This implies that mechanization tends to make supply less elastic especially if machines are specific and heavy and factory buildings are expensive. Under such conditions, one tends to have a larger output and is often prevented from decreasing production when the price of the respective product falls.

2. Total variable costs will increase but variable unit cost may have a different development which depends upon the relation of total variable costs to output, namely :

- (a) When total variable costs are proportional to output, variable unit cost remains stable.
- (b) If total variable costs increase less in percentage than the output, variable unit cost decreases and the firm works under conditions of a "cost digression." In this case, the marginal unit cost is below average unit cost.

- (c) If total variable costs increase more than output, *i.e.*, over-proportionally, variable unit cost will likewise increase. In this case, there will be a "cost progression" so that the marginal unit cost will exceed the average unit cost.

An increase in output will cheapen the produce in two cases :

1. If total variable costs are proportional to output. In such a case the average unit cost will be lowered because of decreasing fixed unit costs. This is, for instance, the case when the supply of labor is abundant and labor is simultaneously an important factor.

2. If total variable costs are digressive. In such a case they accentuate the decrease in average unit cost caused by a decline of the fixed unit cost.

On the other hand, an increase in output will raise the average unit cost, *i.e.*, will make the product more expensive if the total variable costs are progressive to such an extent that the rising variable unit costs over-compensate the reverse movement of overhead costs and thus increase the average unit cost. This is especially serious when in the case of cost progression, fixed costs are relatively low.

Below is an example which shows the different kinds of costs as well as their dependence upon the growth of output.

TABLE I

Unit of Input	Output (total product)	Total fixed costs	Total Variable costs	Total (aggregate) costs	Overhead unit cost	Variable unit cost	Average unit cost
1	100 units	\$1000	\$100	\$1,100	\$10	\$1	\$11
2	200 units (increasing)	\$1000 (constant)	\$200 (proportional)	1,200	5 (decreasing)	1 (constant)	6

This example proves that average costs are lowered and thus the product is cheapened if total variable costs on account of their proportionality to the output, do not affect the declining fixed unit cost. Furthermore, the example pertains to a short period because it is assumed that a certain combination of variable agents is increased while the fixed real capital remains stable.

The cost theory still has to take into account "selling costs" which are defined by Edward Chamberlin as those costs which are incurred to alter the position or shape of the demand curve for a product but not to increase the supply like the costs of production. Such costs are typical of monopolistic competition when several brands are sold ; yet they also are possible under pure competition because a single efficient firm may decide to

draw the public's attention to itself although it sells no differentiated product. In this case, there is, however, a danger that its advertising will promote a similar product of a competing firm. For this reason, advertising is probable under pure competition only if a new reproducible and non-patented product is introduced to the public. In such a case the first competitive firm that advertises may have a temporary differential advantage. Also a pure monopolist may need advertising and may incur selling expenditures if his product is not well known on the market. Selling costs in Chamberlin's sense could not exist only under perfect competition based on complete knowledge and stability of taste. These costs, especially those connected with advertising, represent a distinct historical category. Yet when they are incurred they should be treated as production costs in a broad sense but not as a "renounced" portion of net revenue, because under pure competition they may appear as a loss if they contribute to the competitor's turnover. It should be noted that according to Chamberlin not all selling costs are connected with advertising; some are caused by the expenses of sales agencies, window displays, etc. There is still another peculiar kind of cost mentioned by von Stackelberg. He speaks of "jumping costs" which represent an extreme case of cost progression. If, for instance, a business concern suddenly needs to enter \$1,010 accounting items a day instead of \$1,000, it may be forced to employ an additional accountant.

Production under free competition is carried out by a large number of firms which act under conditions of a uniform price and multiplicity of costs. The principle of uniform price which we usually consider as a norm and define as the "law of indifference", in the terminology of Jevons, implies that in the same open market, at any one moment there can be only one price for the same kind of article. When this principle is observed, different buyers obtain various consumer's rents because there will be a discrepancy between uniform realized price and the prices which individuals are willing to pay but which are not uniform. Since money costs of different sellers are different under dynamic conditions, uniformity of market price means that some sellers can get a profit or incur a loss. When a seller does not get a uniform but a higher price, it does not always imply that he is better off; for instance, a storekeeper on Fifth Avenue in New York, gets a comparatively higher price for his merchandise but simultaneously he has to pay a comparatively higher rent for a store which may wipe out the positive price margin. Summarizing, we can say that uniformity of price taken versus multiplicity of the subjective scales of preferences is a cause of consumer's surplus while taken versus multiplicity of costs is a reason for the appearance of profit and loss.

From a logical standpoint, every economic good should be

produced exclusively by a business concern which has the lowest average costs, *i.e.*, which works under the most favourable conditions. In dynamic life, however, this is normally impossible so that one has to take into account several producers incurring different costs. Since the main cost principle familiar to us requires that effective demand should bear the entire objectively normal costs, it has to imply simultaneously that effective supply should not incur a loss. In other words, every commodity must bear a price which will cover the costs of production of that producer who has the comparatively highest average costs, but still is needed by the given aggregate effective demand. Cassel means the same thing in his "principle of differentiation" which is derived from the law of indifference.

When variable agents are so combined with fixed agents that the lowest average unit cost is attained by the firm, there will be the so-called "least cost combination." Yet, this cost combination does not represent a definite, single, most advantageous status as it is often assumed, because one must consider two factors :

1. In the making of long run production plans, the entrepreneur has before him a wide range of alternatives which represent different scales of enterprise, that is, different possible investments in relatively fixed real capital goods. For each scale of this kind, there is a least cost combination. Yet, that scale of enterprise at which the least cost combination is comparatively the lowest in the particular state of technique is called the optimum scale or optimum size. Consequently, one usually understands by the least cost combination lowest average unit cost status which pertains to the "optimum scale." So long as a further increase in the relatively fixed investments would bring to the firm a cost saving, the optimum scale has not yet been reached. If, on the contrary, the investment of the above-mentioned kind begins to raise the least cost combination, the firm would be larger than its optimum. This implies that even a large business concern cannot be expanded to an unlimited degree.

2. Although the least cost combination means that the firm is producing at the lowest average cost, its application will be advantageous only in the following two cases :

- (a) If the market price exactly equals the lowest average cost of the firm. Should this firm sell its produce at any higher cost, there will be a distinct loss.
- (b) If the given firm enjoys cost digression under the assumption that the market price is higher than the average unit cost of the firm.

Under all conditions, each firm aims at the largest possible net revenue which is attained when the aggregate or total revenue

has the largest excess over total costs. Since this development is given at the "optimum point of output" when marginal revenue equals marginal cost, each firm tends to expand its output in real life so long as marginal revenue continues to exceed marginal cost. Let us take the following numerical example :

TABLE II

Input (Units)	Output (Units)	Total costs	Total revenue	Net revenue	Average (unit) Costs	Margi- nal Costs	Margi- nal re- venue	Margi- nal net revenue
(In DOLLARS)								
10	3,240	2,000	5,832	3,832	0,61	—	—	—
11	3,300	2,100	5,940	3,840	0,63	100	108	8
12	3,350	2,200	6,030	3,830	0,65	100	90	—10
If cost digression.		(2,040)		(3,990)	(0,60)	(—60)	(90)	(150)

This example assumes that the market price of the product is dictated by the market, cannot be influenced by the increasing output of the firm and always amounts to \$1.80. Consequently, it is higher than the average unit cost of the firm. As long as there is a cost progression, the hypothetical firm is not interested in the largest output, in the biggest total revenue, and in the least cost combination but increases output as long as marginal revenue exceeds marginal costs. In other words, the output of 3,300 units in the example yields the largest surplus revenue and thus represents the most profitable level of output although it does not literally coincide with the ideal optimum point of output. If, however, it is assumed that with the twelfth unit of input ensues cost digression, the hypothetical firm will care for the least cost combination since the lowest average unit cost will correspond with the largest marginal net revenue.

It has been noted that the market price was dictated to the competitive firm by the market. Thus, the question arises what is a market. A market for a commodity is an area in which a larger number of buyers and sellers is present and they are in close communication with each other. Such an area does not imply necessarily a market place in the physical sense but only a distinct system of objectively expected prices. This is especially true if there is a definite market for a large number of different goods, as, for instance, a regional market that possesses a degree of isolation or the entire "home market." Sometimes "market" may pertain to a definite commodity. Such a market can be represented by a number of places, as, for instance, numerous filling stations which dispense gasoline to consumers in the country. For some goods, however, such as wheat, cotton and rubber, the market at least under normal conditions is world-wide. On the other

hand, services are largely sold in a local market. For instance the services of a physician usually are confined to a local market although some few famous physicians may sell their services on the world market.

In a capitalistic economy, under free competition, a producer or a seller is usually confronted by a market which in principle is spontaneous or based on expectations and on a loose organization. Only stock and produce exchanges have a really organized market which develops general price quotations and where price formation itself is carried out distinctly according to the principle of "marginal pairs." This is free competition but is a result of a deliberate and organized effort. Pricing in this case is rational. Auction also comes close to such a market. Sometimes a rationally organized market, as that of a cartel, represents unfree competition.

Free competition appears in real life as pure competition. Only in an imaginary stationary economy or in a kinetic economy which also is an abstract model would there be genuine perfect competition, although in such a case, competition is not a rivalry but a spontaneous joint action. Though pure competition is in principle an imperfect free competition, there is a fallacious tendency in economic theory to identify it with perfect competition. The best progress was made by Fritz Machlup who maintains that free competition is perfect if there is no profit and pure if there is an infinite elasticity of demand for the output of each producer. This contention is correct but insufficient and somewhat confusing because the latter case is congenial to perfect competition also. Albert Meyers likewise has a progressive standpoint. He understands by pure competition a competition that pertains to standardized products and by perfect competition a perfect market implying perfect freedom of movement, absence of uncertainty and perfectly elastic supply of the factors of production. This distinction, however, is so ambiguous and insufficient that Meyers himself upsets his classification by admitting that pure competition can eventually be perfect. We cannot agree with Chamberlin either who seems to see the main characteristic of the pure competition in the fact that it is unalloyed with monopoly elements while perfect competition involves perfection in many other respects. This is, in a sense, true but utterly insufficient because the absence of monopoly is not the main characteristic of pure competition which being a dynamic market form differs from perfect competition in quite a few essential respects that are disregarded by Prof. Chamberlin. It is, however, still more painful that some influential economists, such as Pareto, Joan Robinson, Boulding, and Samuelson, virtually neglect the very essential difference between perfect competition and pure competition.

A picture of perfect competition as applied to a slightly kinetic economy will admit two non-stationary assumptions, namely that :

1. There are free entry and exit at the same costs.
2. There is informative advertising connected with a peaceful introduction of new products which displace some antiquated goods.

Perfect competition is, under the above-mentioned slightly dynamic conditions, simultaneously a "polipoly" and a "pliopoly" in the terminology of Prof. Machlup. In other words, the number of comparatively small sellers is so large that no single competitor can influence price formation. Besides, there is a genuine free entry so that everybody who has adequate funds may enter the particular branch of the national economy and will be able to sell the product at the same costs. Free entry means here a genuine equality of opportunity in industry. It is evident that there also must be free exit for any firm without any discrimination so that there will be no differential advantage in respect to reconversion or liquidation. Under perfect competition, any buyer and seller must deal with relatively small quantities. If, for instance, a farmer produces ten thousand bushels of wheat a year, he must be engaged in a very large trade where his effective supply would be too insignificant for "spoiling the market." In general, under free competition, no seller may spoil the market, otherwise he would be able to affect the market price.

There must be an infinite divisibility and a perfect mobility of the factors of production as well as of the goods of final consumption, and a complete freedom of movement for the producers themselves. The buyers and the sellers must be continuously informed as to the objectively expected prices so that there will be no uncertainty and the market values will have to equal the actually realized prices. In such a sufficiently small and well organized market, there will be no friction from inertia or delay so that price adjustments would be very easy and exact.

The principle of price uniformity must be fully observed. There can be no price discrimination. The cost of a good may differ in various points of the market only because of objectively necessary costs of transportation connected with "importation." The necessary amount of any commodity must be available so that there will be no restriction such as rationing or priority. All of these rules pertain simultaneously to productive services and to the material goods of final consumption. The good traded must be standardized or homogeneous in quality. In other words, the good sold by a seller should not be different from a similar good sold by another seller even in the mind

of the buyers. There can be no product differentiation, *i.e.*, no brands and no trade marks. For this reason, advertising will be informative and not competitive. A buyer must be governed exclusively by a consideration of price and must have no preferences whatsoever.

Effective demand for any good of any seller is infinitely elastic so that a seller who is unable to sell at the uniform market price would have no chance of surviving since the buyers could get the identical product cheaper elsewhere.

Pricing must be free from any institutional restraint; it has to regulate the choice of occupation, the entire satisfaction of individual and semi-collective wants, the actual distribution of the productive forces over different branches of production. This implies that there are no interferences by public authorities and that the sellers and buyers do not impair the freedom of market by making an agreement directed against the opposite party. Even custom or contract must be absent because they provoke an inflexibility of prices and thus may impair the free interplay of forces. For instance, a long established custom in America stabilizes the price of chewing gum at five cents a package which in this case should be ruled out.

Since under perfect competition any producer sells each good at his lowest average cost, no producer can get a surplus over a modest objectively normal net revenue composed of equalized wages of management and rate of interest imputed on his own investment. Even the horizontal differential rent of land is here eliminated as differential advantage because the capital value of each piece of land was shaped by perfect competition in such a way that interest on the investment has made it practically void.

For all these reasons, there is, under perfect competition in each industry no marginal firm since every business concern is practically "marginal" or in total equilibrium. In other words, when competition is one hundred per cent perfect, that is, ceases virtually to be a rivalry, every firm sells at its lowest average cost whereby all firms have equal least cost combination and this combination coincides with realized price. Such a status would be easily attained in a stationary economy in which all data do not change but never can occur under dynamic conditions. Under perfect competition, the optimum scale of each firm, that is, the ideal scale that really represents the lowest average cost is in equilibrium with the firm's optimum point of output, *i.e.*, with the point which equilibrates marginal revenue with marginal costs. This implies that each firm sells at its lowest average unit cost which simultaneously equals marginal unit cost, marginal unit revenue and coincides with realized market price.

A numerical example shows the market position of such a total equilibrium firm :

TABLE III

Actual price imposed by the market	Input (units)	Output	Total costs incl. objectively normal net revenue	Average unit cost	Marginal costs	Marg. Revenue	Marg. Net Revenue
\$			\$	\$	\$	\$	\$
10	1	100	1,000	10	—	—	0
10	2	101	1,010	10	10	10	0

The table proves that the analyzed firm is really in total equilibrium because its least cost combination coincides with the optimum point of output so that its product is sold at the average unit cost which equals the marginal unit cost.

In real life, free competition appears only as pure competition which, however, does not embrace the entire national economy but only some of its branches and in particular some divisions of manufacturing. Although pure competition is a polipoly but not a real pliopoly, it still represents a kind of free competition because there is no element of monopoly at least in a narrower sense. Buyers and sellers are numerous and small enough not to be able to affect singly and thus directly the very flexible prices. Here competition is a genuine rivalry. Yet, this rivalry is not personal because the purely competitive entrepreneurs seldom know each other and are confronted by an impersonal aggregate effective supply that influences a likewise impersonal competitive price formation. All commodities are standardized. Yet, production is subject to the principle of multiplicity of costs so that there is no perfectly free entry and exit, no equal composition of total costs, no perfect indivisibility and mobility of the factors of production and no perfect knowledge of the market. Roughly speaking, there are quite a few comparatively minor dynamic frictions which prevent the attainment of a perfect market. Yet, the market here shows a highly unrestrained competitive character.

On account of the multiplicity of costs, there is a marginal firm in each branch of the economy. Such a firm has several main characteristics :

1. It is the highest cost firm among those which are still needed by the market because its lowest average cost is higher than the least cost combination of any competing better firm.

2. It is a total equilibrium firm since it sells its produce at its lowest average cost which, however, is equal to its marginal unit cost and coincides with actual realized price. In other words, its optimum scale is in equilibrium with its optimum point of output because its least cost combination appears at the point where marginal costs equal marginal revenue. For this reason such a firm does not get any surplus over an objectively normal net revenue nor suffers a loss. It just covers its objectively normal total costs. Since any marginal firm must be in total equilibrium, it tends to leave the industry first when the price of the respective product goes down for a time because otherwise it would have to act continuously as a submarginal firm which cannot yield even an objectively normal net revenue. In such a case, the firm would have lost the most important characteristic of the marginal firm which is supposed to cover the objectively normal opportunity costs of the entrepreneur. From a logical viewpoint, no entrepreneur under normal capitalistic conditions can be expected to be ready to forsake the objectively normal net revenue for a considerable time. Yet, Samuleson points out correctly that in some chronically over-crowded, sick industries, such as grocery stores, restaurants, and gasoline stations which require very little initial investment, there is at any time a considerable number of sub-marginal firms that remain in the industry until they have lost their capital. Most firms of this kind belong in the field of monopolistic competition, yet farming and some branches of manufacturing, as for instance, production of cotton-gray goods which are purely competitive, are likewise overcrowded and thus contain a considerable number of similar submarginal firms. If a firm, in particular a farm, is not well mechanized, has no sizable specific real capital and leaves the branch of production in order to produce something else, this will not necessarily imply that particular firm was a marginal one. It is possible that it did not work under the most unfavourable conditions as a marginal firm but simply decided to select a new more favorable line of production. For instance, a corn producing farm may shift to wheat production when an increase in the price of wheat makes the latter crop more profitable. Usually, however, a farm which is marginal with regard to one crop starts to produce another crop when this latter product becomes so comparatively valuable that the farm can start its production without being the highest cost farm. This will give it a chance to become a supermarginal enterprise. Henry von Stackelberg assumes that under especially favorable market conditions each competitive marginal firm may have a profit so that surplus revenue will be related to an absolute rent. It is doubtful, however, that something like that can happen unless there is a closed entry caused for instance by a shortage of raw-materials in case of a major war and expressed in terms of

“priorities.” However, in such a case one can hardly speak of a free competition. Otherwise if all actual marginal firms begin to yield a surplus revenue this will imply that they ceased to be such and that their place is taken by the former submarginal enterprises.

Any firm which is supermarginal has the following main characteristics :

1. It is a “relative equilibrium” firm because its optimum scale and optimum point of output do not coincide. For this reason, such a firm does not sell its product at the lowest average cost but increases its output until the optimum point of output is reached. The product is sold at its “normal” (or final) marginal unit cost which is obtained by the firm at the optimum point of output. It is assumed that there has been a moderate increase in the average unit cost so that the marginal unit cost gradually rises and approaches the realized price given by the market before the optimum point is reached. Since this price exceeds the firm’s average unit cost, there will be a positive surplus revenue. If there is a cost digression, the given supermarginal firm will be continuously in a positive disequilibrium because it will not reach its optimum point of output. The marginal revenue will continue to exceed marginal costs and the firm will have a lasting motive to expand its production. It is evident that some day the cost digression must stop because of diseconomies of large scale production since otherwise the firm will acquire a monopolistic status and thus will destroy free competition. However, this does not happen very often in real life. Besides, the firm would be checked by an analogous development of some other firms of the same kind and would run into an institutional oligopolistic equilibrium. Thus, in the American automobile industry out of a hundred odd car manufacturers only about a half dozen of any significance are left and of these the big three (General Motors, Chrysler and Ford) are of predominant importance. The same may easily happen some day to the airplane industry, but can hardly be the case in wheat farming because, as Prof. Samuelson maintains correctly, each farmer’s marginal cost curve turns up long before he becomes sufficiently important to affect the market price.

A supermarginal firm which works with a slightly increasing average unit cost is still inasmuch in a relative but not in a total equilibrium as it derives a positive marginal net revenue (vertical rent) from each consecutive unit of its input before the optimum point of output is reached and without a real risk that the aggregate net revenue of this internal nature will be later wiped out since the realized market price must here exceed the average costs. Such a firm does not derive any positive marginal net revenue only from its normal marginal unit of produce which

is congenial to the optimum point of output and from any successive marginal unit of output after the above-mentioned point was tresspassed. The following two characteristics of the optimum point of output of a supermarginal firm must be taken into account :

1. Before this point is reached the initial, that is, the first units of output practically incur a loss, that is, do not raise total revenue over total costs although at this time marginal revenue already exceeds marginal costs. The reason is that the output is too small so that the total costs have to surpass the total revenue of the firm.

2. As soon as the optimum point is violated, although marginal costs exceed marginal revenue, the total surplus revenue persists but begins to decline. Consequently, the firm will have practically no rational motive to push the output beyond this point.

The following numerical example will prove the contention that a supermarginal purely competitive firm will expand its output until the optimum point of output is reached since this point symbolizes the largest possible net revenue. In real life, however, production is frequently stopped short of the optimum point if a further expansion of output runs the risk of trespassing this point. For this reason, also in the numerical example the output is increased as long as the positive marginal net revenue continues to grow, namely :

TABLE IV

Price given by competi- tive market	Output (in units)	Total costs	Total revenue	Net (surplus) revenue	Marginal costs	Marginal revenue	Marginal net reve- nue (or vertical Rent
\$1.80	100	\$1.100	\$180	\$920	\$(100)	\$(180)	(80)
1.80	3,240	2.000	5,832	3,832	(100)	(226.80)	(126,80)
1.80	3,300	2.100	5,940	3,840	100	108	8
1.80	3,350	2.200	6,030	3,830	100	90	—10
1.80	3,395	2.300	6,111	3,811	100	81	—19

In this case, the price is imposed by the competitive market and thus remains stable although the output of the firm continuously increases. The output stops as soon as the marginal net revenue amounts to eight dollars because a further possible increase in output will result in a negative marginal vertical rent which will decrease the aggregate net revenue of the firm.

Any supermarginal competitive producer increases his output until his marginal unit costs, but not the total marginal costs, as is sometimes wrongly assumed, reach the given competitive market price. Since in our numerical example, production stops short of the optimum point of output, also the marginal unit cost will not equal the given price. Yet, the marginal unit cost which comes into consideration will be that cost which approaches the price, without, however, trespassing it. The following figures will prove our contention.

TABLE V

Market Price \$	Output (Units)	Marginal pro- duct (Units)	Marginal Costs \$	Marginal Unit Cost \$
1.80	3,300	(60)	(100)	1.67
1.80	3,350	50	100	2.00
1.80	3,395	45	100	2.20

Marginal unit cost is obtained by dividing total marginal costs by marginal product.

If there is a cost digression, *i.e.*, the average unit cost decreases, the supermarginal competitive producer who cannot influence the spontaneous market price will exploit his lowest average cost, *i.e.*, will be guided by his least cost combination. This fact can be illustrated as follows :

TABLE VI

Mkt. price \$	Output (units)	Total costs \$	Total Reve- nue \$	Net Reve- nue \$	Average costs \$	Marg. costs \$	Marg. Revenue \$	Marginal net Reve- nue \$
1.00	20	10	20	10	.50	—	—	—
1.00	40	16	40	24	.40	6.0	20	14.00
1.00	60	18	60	42	.30	2.0	20	18.00
1.00	80	17.60	80	62.40	.20	—0.4	20	20.40

This example shows that under cost digression, any further increase in output raises the marginal net revenue and thus increases the aggregate net revenue. The last item, based on the assumption that the total costs decrease, represents an exceptional case which can occur only if a drastic innovation is introduced by the firm. If average costs decline, no one can sell at his marginal

unit cost that decreases while his marginal net revenue rises. This contention can be illustrated as follows :

TABLE VII

Market Price	Marginal Costs	Marginal Product (Units)	Marginal Unit Cost
\$	\$		\$
1.00	6	20	0.30
1.00	2	20	0.10

Since a purely competitive supermarginal producer sells at the market price amounting here to one dollar, he cannot be guided under cost digression by the constantly declining marginal unit cost. Decisive for him, as usual, is the optimum point of output.

A submarginal firm sells under pure competition at the given market price which is below its lowest average cost and for this reason stops the increase in its output as soon as it reaches its optimum scale. In other words, it is guided by the least cost combination which can be learned from the following figures.

TABLE VIII

Average Costs	Competitive Market Price
\$	\$
2.00	1.00
1.80	1.00
1.60	1.00
1.40	1.00
1.20	1.00

It is evident that the given firm will minimize its loss if it sells at its lowest average cost amounting to \$1.20.

In real life a submarginal firm is willing to accept any price which will enable it to get a modest excess of the average variable costs or "out of the pocket" costs of production. If it does this, it will be able to recover some proportion of the otherwise lost fixed costs. Should the firm be unable to cover even its variable unit cost, it will temporarily close its business and thus will incur a net loss equal to the actual fixed costs. In the long run, such a firm will be unable to stay in the market.

Joe Bain said that under pure competition the market price in the short run covers the variable unit costs only of some sellers in the industry. This is questionable because this would practically mean that the industry is composed of the submarginal firms.

All that was said above about the relation between the competitive market price and the cost policy of the firm under pure competition leads to the conclusion that a super-marginal

firm always exploits its optimum point of output while a sub-marginal firm uses its optimum scale, and a marginal firm is guided by both of the above-mentioned factors since it necessarily achieves equilibrium between its least cost combination and the optimum point of output.

The importance of the optimum point of output for a super-marginal purely competitive firm is evident also in case that this firm produces two goods of joint supply whose costs of production are likewise necessarily joined. It is necessary, however, to distinguish here between the two following possible cases, namely :

1. When an increase in the output of one product necessarily raises the production of another in a constant proportion. In such a case, there is no chance of dissecting their joint costs because the degree of complementarity is so high that the total costs inseparably belong to both products. This may occur, for instance, when one produces cotton and cotton seeds or silver and lead which are very distinct goods of joint supply. In such a case, both products are considered as one peculiar composite good. If, for instance, production of one pound of silver always accompanies two pounds of copper while the price of silver is thirty dollars a pound, that of copper, ten dollars a pound, the composite unit price will be twenty dollars (copper) plus thirty dollars (silver). The addition of one composite unit to the joint output will add fifty dollars to gross revenue : the \$50 being a composite marginal revenue. One will stop the increase of the joint output as soon as the composite marginal costs begin to exceed the composite marginal revenue.

2. If the amount of each joint product can be somewhat varied because there is no high degree of complementarity, the producer will try to obtain a combination where the marginal costs of each product are equal to the respective marginal revenue. This is, for instance, the case when gasoline and several by-products are produced from crude oil. Thus, also here no product will be produced unless the marginal revenue at least equals marginal costs.

Summarizing, we can say that pure competition is based on the two following fundamental phenomena :

1. Multiplicity of costs, which emphasizes free entry and free exit at different costs. For the same reason there is a hierarchy of firms which would be impossible if there were no profit and loss.

2. Absence of total equilibrium that leads to a discrepancy between different kinds of price. In particular, consumer's rent is a rather frequent case. Only the marginal buyer and seller represent under pure competition a total equilibrium phenomenon.

Pure competition is a more frequent case under modern capitalistic conditions than is usually assumed which correctly stresses Professor Stigler. This fact was well proved in particular by Rev. John Cronin. He rightly points out that until now a distinct type of pure competition is found in agriculture, usually as far as the production of wheat and cotton are concerned, in apparel production and in a somewhat lesser degree in retail distribution or in the field of personal services. Here enterprises are numerous, the typical firm is small, the degree of concentration is modest and prices are flexible. According to Cronin, this group contained approximately in 1944 over ten million business concerns and employed over fifty percent of the gainfully occupied people in the United States. In particular in farming, a group cannot easily fix prices since the capriciousness of weather, more than the planning of men, determines the output of farm products. As a result, less than seven per cent. of American farming was by 1945 carried out by corporations. However, the recent development of producer's cooperatives may somewhat upset this tendency. There are still some other reasons that favour the continuance of pure competition, as for instance :

1. The necessity to produce "cash products" (regardless of profit) in order to cover taxes, interest and the cost of living which is typical of farming and lumber industries. Here, the sub-marginal producers are rather numerous.

2. A serious inter-industrial competition based on a considerable degree of substitutibility of the product which prevents the creation of large concerns. So, the same lumber industry has to compete with steel, cement and other building materials.

3. The fixed costs are so important that a decrease in price of the product cannot produce an automatic contraction of output. So maintenance of idle coal mines may be more costly than the operation at a loss for a certain period. For all these reasons, quite a few branches of the national economy keep up submarginal firms and make the elimination of pure competition impossible.

CHAPTER XI

PRICE AND PRICE FORMATION UNDER PURE COMPETITION

Up to this point it was assumed that the realized market price is given and the task was to find out how a firm under free competition and in the frame set by the given price expands its output and sells its products with regard to its money costs. The question arises now : what determines the market price of a consumption good under pure competition ? Before this question can be answered, it is necessary to know what is understood by a market price and what are the main functions of a competitive price.

In principle price in the case of a modern money exchange economy is an amount of money in the narrower sense, that is, a quantity of the means of assignment, which could be objectively expected or is actually received in exchange for the good. The main function of price is to adjust effective demand to effective supply. Thus, the price of a commodity depends not only upon the effective demand for it but also upon the good's actual availability. This implies that the price has to restrict the effective demand for the good with regard to its actual relative scarcity. For this reason, any price eliminates the weakest bearers of demand by preventing them from developing an effective bid. Pricing also restricts the actualization of wants by forcing any normal economizing individual to abstain from considering his less essential wants when the level of prices limits his spending power. As long as there is pricing, there is simultaneously freedom of choice because any economic subject can choose among the given priced alternatives. This idea is especially stressed by Hayek, who assumes that pricing congenial to capitalism makes this socio-economic order superior since it guarantees personal freedom. Yet, freedom of choice likewise exists under socialistic conditions and in a Fascist state as long as the consumer is able to actualize his demand according to his own disposition and by means of money in the narrower sense. There can be only a question of degree or extent to which the freedom of choice is exercised.

On the other hand, pure competition which is based on a spontaneous price formation means "sovereignty of the consumers." They indicate by their aggregate effective demand affecting the price level how the available factors of production should be employed. This is the case because any spontaneous

market price shows whether a relatively scarce productive agent is rationally used or wasted. The latter development takes place when the actual market price of a finished good is unable, especially in the long run, to cover the respective total objectively normal money costs. However, when the price of a product, even in the short run, does not cover such really actual normal costs of production, there is a distinct displacement of the respective productive agents which is perceived by the market as a relative overproduction of the commodity. Thus, no realized market price should even for a short duration fall below the actual objectively normal average costs of production of the good or stand in a long run below its objectively normal costs of reproduction. It is evident that the process of pricing under pure competition has a progressive nature because it favours those producers who understand how to lower the costs of their output. Besides, in such a case, the general price level, as a system of interrelated individual prices, helps to hold together the numerous autonomous individual economies which, thanks to their interaction through exchange, form a distinct system in Struve's sense.

Our main definition of the concept of price implies that the realized market price should not be confused with an objectively expected price. The first kind of price is a strictly instantaneous or at least a short lived phenomenon which in a certain place and at a particular time establishes a short-lived equilibrium between the respective effective demand for and effective supply of the good and fixes it in such a way that no party which has the power to make a change wants to alter the price.

Under dynamic conditions, the realized market price very often deviates from the objectively expected price conceived as a "consensus of the market," which is a kind of public opinion that expresses the actual market value or the current objective exchange value of the good. Only if one understands by price the objectively expected price of this kind can one accept the contention of Bohm-Bawerk that the price of a commodity is its market value in terms of money. Bohm-Bawerk meant a realized market price but such a contention is unacceptable unless one means a stationary economy.

Under dynamic conditions, there is another kind of objectively expected price which could be defined as 'anticipated market value.' It is evident that such a rationally anticipated price very often deviates from the actual spontaneous market value. If both coincide, it will be a sign that the economy is not sufficiently dynamic. Yet, the rationally anticipated price is very important when a firm makes long run plans or is engaged in speculation conceived as "arbitrage through time" in Boulding's terminology. Such an objectively-anticipated price belongs in the field of

valuation more than the actual market value. This distinction between the two kinds of objectively expected price was originally made by Russian statisticians and now is used by the European statistical nomography. Alexander Chuprov, Jr. defined the objectively anticipated price as "mathematical expectation of price." At present George Stigler also uses this term, while von Gottl substitutes "economic dimension" for it. The anticipated market value of a good is represented by a weighted arithmetical mean of possible prices of the good at a certain future date, while the weight is expressed in terms of probability. The following example will illustrate Chuprov's method to determine the rationally anticipated price of a good, conceived as mathematical expectation of price.

TABLE I

There is 1 chance in 10 that the price of the given product in time under					consideration will be	\$1.50
„	„	2	„	„	10	1.00
„	„	3	„	„	10	.75
„	„	4	„	„	10	.50

It is evident that the sum of the "chances" must equal 10.

The mathematical expectation of the price under the above-mentioned conditions will be determined as follows :

$$1/10 \times 1.50 + 2/10 \times 1.00 + 3/10 \times 0.75 + 4/10 \times 0.50 = \$0.78 (\text{roughly})$$

This method represents a valuation of the good. Besides, the concept of "elasticity of expectations" which was developed by Hicks can be used in this connection. So the above-mentioned elasticity is less than unity if a current rise in the prices leads to the prospect of a smaller rise in price of the product at the time under consideration.

The concept of mathematical expectation can be used only under the assumption that there is at least a kinetic national economy because a stationary economy does not know any change even in respect to individual prices. In other words, a stationary economy is incompatible with any kind of expectation or, in the terminology of John R. Commons, is alien to the principle of "futurity". Even a firm can anticipate something, for instance, a change in its output, only if the respective industry becomes kinetic. Since, however, any individual market price concerns the entire national economy, there will be a genuine price anticipation only when the whole national economy has assumed a kinetic character which corresponds with the third stage of the following scheme :

(we identify here "static" with stationary)

TABLE II

Firm	Each Industry	National Economy	World Economy
Static	Static	Static	Static
Dynamic	Kinetic	Static	Static
Dynamic	Dynamic	Kinetic	Static
Dynamic	Dynamic	Dynamic	Kinetic or Dynamic

The expected price conceived as a certain "market opinion" is emphasised also by each representative of any organic approach, especially by Spann. Yet, in this case, it is usually wrongly identified with the actual realized price which is supposed to indicate the current "specific weight" or objective value in use of the given good from the standpoint of the national economy as a whole. In other words, it is assumed that any realized market price shows the functional or rather organic significance of the commodity. This approach advocated also by J.B. Clark is correct inasmuch as each spontaneous price really does, in a sense, assign to the respective commodity a certain place on the objective scale of preferences. Yet, such a conclusion can be reached in actual life only with some serious reservations. These are partly stressed by Wesley Mitchell, Blodgett and Tarshis. Namely, under normal conditions of a capitalistic money exchange economy, when there is a great inequality in the distribution of national money income among individuals, the price system in a sense "ration" economic goods in favour of those who possess a larger spending power by means of price changes just as under abnormal conditions, rationing is carried out by means of physical quantities of goods and in an equalizing way. For this reason, a comparatively low price of a good does not necessarily mean that the good is of little importance or that the entire demand for it is already provided for. But it may imply that the good commands insufficient effective demand because the people who would have desired it possess such a modest spending power that they cannot afford it. Of course, if one takes into consideration the market price of a normally abundant and essential good, such as bread, Spann is right that it measures the social value in use. In quite a few cases, however, especially in the case of a luxury, the realized market price indicates the good's objective value in use only from the standpoint of the representative group of buyers, while also here the price will usually coincide with the actual market value. It is evident that a capitalistic entrepreneur who allocates productive agents normally tends to produce goods whose prices are favourable in relation to their costs but does not care to ask whether an essential mass want will thus be prevented from being gratified in a satisfactory way. The result is, as Blodgett says, that yachts are produced for the transportation of the few before there are enough shoes for the transportation of the many. This implies that the sovereignty of consumers is restricted by the

businessmen who decide what material goods and services should be placed on the market so that consumers can actually choose only among the various options which are offered to them by the acquisitive producers. Yet, the decision of such producers are influenced by the potential aggregate demand for their products by those consumers who can afford them. Thus, the ideas of sovereignty of the consumers and of the "functional importance" (in Spann's sense) of a realized market price have a certain foundation but can be accepted only if the above-mentioned reservations are fully observed.

Some influential economists, including Cournot and Prof. P. Sraffa recommend discussing price formation under monopoly before considering price formation under free competition. This text will follow the opposite procedure for the following reasons :

1. The theory of price formation can be better understood in terms of a scale of approximations pertaining to the "market forms" in von Stackelberg's terminology. The lowest realistic stage of this scale necessarily is represented by a non-imaginary pure competition.

2. Price formation under monopoly can be conceived as a certain modification of the "price policy" of a supermarginal producer under pure competition.

In the case of pure competition, the pricing of a consumption good is determined by two fundamental principles which have been discussed in another context, namely, by the "law of indifference" and by the principle of differentiation in Cassel's sense. Since there is a distinct multiplicity of costs in this case, the latter principle, which is closely linked to the first one necessarily tends to raise the objectively normal price of the good and thus also its actually realized market price. This development in real life is often modified by the principle of substitution which cheapens the product; yet, it does not violate the main principle of differentiation.

The theory of value holds that the principle of substitution in respect to a consumption good is based on the idea of derived subjective value in use. This means that when there is a good close substitute for the commodity which is cheaper than the good itself the price of the given good will be determined by the lowest average cost of the marginal firm which produces the substitute. Thus, the principle of differentiation remains fundamentally intact because the marginal and for this reason the most expensive still needed by the market firm producing the given good is replaced by the marginal firm which produces the substitute.

It is not sufficient to apply the principle of differentiation to supply, as does Cassel. It should be applied simultaneously to demand as Bohm-Bawerk advocated. In other words, although the realized market price must cover the costs of production and in principle also the costs of reproduction incurred by the most expensive or the weakest firm among the needed producers, it must be low enough to enable the weakest still needed buyer to develop an effective demand for the commodity. Consequently, in this version, the principle of differentiation has the same cheapening effect as the supplementary principle of substitution. It is evident that one cannot agree with Stigler's contention that "Bohm-Bawerk's theory of 'marginal pairs' is clumsy and misleading. On the contrary, this theory gives the best explanation of price formation under pure competition especially when the main purpose is 'to clear the market' of existing goods. Of course, price formation on the stock exchange comes especially close to the scheme developed by Bohm-Bawerk (as Struve points out); yet this model stands behind price formation of ordinary kind, provided that there is free competition. This contention is shared also by some American economists, such as Werner Hochwald. The theory of marginal pairs is based on the usual assumption that a realized market price equilibrates the effective supply with the respective effective demand. In addition it sets two normal limits which restrict an arbitrary shaping of each spontaneous price. These limits are determined as follows :

Upper limit : The realized price of the good cannot be above the valuation held by the weakest still needed buyer (i.e., marginal buyer) and must be below the money costs of production or eventually of reproduction of the strongest excluded, that is, no longer needed, seller. Should the market price eventually surpass this limit, there will be too few buyers and too many sellers so that competition among the sellers will lower the price to its actually given upper limit.

Lower limit : The realized price cannot be below the money costs of the weakest still needed seller (i.e., marginal seller) and must be above the valuation of the given good of the strongest excluded buyer. Should the market price fall below this limit, there will be too many buyers and too few sellers so that competition among the buyers will raise the price to its actually given lower limit.

These limits integrate both principles of differentiation, namely, the first in Bohm-Bawerkian and the second in Casselian sense.

Let us take the following numerical example (based on very simplified assumptions) :

TABLE III

A will buy 1 unit at \$5	Supermarginal Marginal Submarginal	F can sell 1 unit at \$1
B " " 4		G " " 2
C " " 3		H " " 3
D " " 2		I " " 4
E " " 1		K " " 5

The price will be \$3.00 because 3 units can be bought and sold at this price. "A" is a supermarginal buyer because he gets a positive consumer's rent and "F" is a supermarginal seller because he achieves an "economic surplus" (in Boulding's terminology). The price of \$3.00 is not above the valuation of the marginal buyer and is at the same time not below the costs of the marginal seller. It is, however, above the valuation of "D", *i.e.*, the strongest submarginal buyer, as well as below the costs of "I" or the strongest submarginal seller. In this simplified numerical example, it is assumed that each buyer wants to acquire only one unit and that no producer can develop as a monopolist since he can sell only one unit.

The Bohm-Bawerkian scheme of price formation shows distinctly that price under pure competition is a "parameter" because it is not fixed by any one but is co-determined by any person who actualizes his desire for the good or the stock of it. One can say at the most that the marginal pairs or still more roughly the actual marginal buyer and seller influence the market price directly while the valuation on behalf of all other participants affects it indirectly. Bohm-Bawerk's scheme shows very clearly that the realized market price under pure competition will not be a total equilibrium price because there usually will be some potential buyers and sellers who are excluded from the transaction. At the most it can be a final equilibrium price (in a narrower sense) when it coincides with "normal price" which not only equals the actual objectively normal costs of production but also makes production and consumption with regard to the good equal. This will eliminate the potential supply but not the potential demand.

Since pure competition is a dynamic market form, a static total equilibrium price which pre-supposes that each buyer and each seller is marginal is incompatible with it. In other words, the scheme of marginal pairs cannot pertain to perfect competition unless it is reduced to the scheme of two marginal persons. On the other hand, normal price in the narrower sense can eventually appear under dynamic conditions because a realized market price can for a moment equalize the rate of production and the rate of consumption in respect to the good. Sometimes normal price does not seem to be realized for a very important reason, namely, because the presumed objectively normal costs are not actual, *i.e.*, because the presumed marginal producer ceases to be

such. In general, the normal price of the good is a rather ambiguous concept and appears in the following two forms:

1. In the narrower sense. Normal price is conceived as final equilibrium price which not only equals the presumably actual objectively normal costs but also makes the rate of production and the rate of consumption equal in respect to the good. This is stressed by Professor Boulding.

2. In the broader sense. When it just covers the actual objectively normal costs. This case is by far more probable under real dynamic conditions.

The fact that sometimes the realized market price does not cover the presumed objectively normal costs does not violate our norm, that it has to equal the lowest average cost of the marginal producer. In such a case only the bearer of the norm changes but not the norm itself, just as the fact that somebody ceases to be a child does not violate the norm that at a particular moment there are always some children. Roughly speaking a realized market price under pure competition is normally an instantaneous tentative equilibrium price which establishes an equilibrium between effective demand and effective supply while representing simultaneously "normal" price in the broader sense unless the national economy is very strongly dynamic. Under pure competition, a potential seller is excluded from the market, that is, does not participate in the transaction, if he wants to maintain his subjectively expected price which is momentarily too high in comparison with the actual market value of the good. This happens either because the firm is a submarginal seller under prevalent conditions, or because its expectations are very optimistic. On the other hand, Boulding's assumption that a firm abstains from selling its produce if it has a strong preference for holding its possessions in a non-monetary form, is true only in case of a major inflation.

The theory of marginal pairs needs only one supplementary proposition for being roughly complete, namely, one should take into account that no spontaneous market price is rootless. On the contrary, any realized price is, at least under normal conditions, a product not only of the present socio-economic development but also of the past, since at any given time the former realized price of the commodity influences its actual market value and in this way becomes a determinant of the current market price. Consequently, on the whole, the market price of an ordinary reproducible consumption good is determined under pure competition by several different factors. First of all, it is shaped by the lowest average money costs of production (under less normal conditions by the costs of reproduction) of the good or eventually by those of a cheaper substitute produced by the

actual marginal firm. This is an objective determinant because behind these costs stands the actual scarcity of the respective productive agents. Since, however, any spontaneous market price is simultaneously co-determined by the effective demand for the good, there are still some essential psychological or subjective determinants. At least the five following factors should be stressed :

1. Subjective value in use ("marginal utility") of the good for the actual marginal buyer.
2. Current market value of the other goods placed on the subjective scale of preferences of the actual marginal buyer.
3. The current market value of the good perceived as "price on the label" which expresses the actual market opinion and thus influences the current subjective valuation of the commodity.
4. The former market price of the good which is kept in mind even by those buyers who do not know its actual market value. Only in the case of runaway inflation will the current realized market price be divorced from the past.
5. The knowledge that there is a potential supply of the good which makes it less scarce from the psychological viewpoint.

Summarizing, the price formation of a reproducible consumption good under pure competition may be reduced to the following propositions :

1. The realized market price is formed at the intersection of aggregate demand and supply curves.
2. Such a price is ultimately determined by the lowest average costs of the actual marginal producer and by the subjective valuation on behalf of the actual marginal buyer. It is evident that under pure competition, there is, at any time, a rather large number of marginal sellers and marginal buyers who are of similar nature.

Since a competitive price is a parameter, the subjective valuation of the good and money on behalf of any participant, particularly of two other members of the marginal pairs, is of some importance.

When the good in question is unique, that is to say, cannot be reproduced, and for this reason is practically offered by a monopolist, its market price cannot be determined in the ordinary manner. It depends exclusively upon the subjective valuation of the commodity by the strongest bidder who is sometimes even a monopsonist, as in the case of the sale of a unique original painting. Since an auction sale means that there are many buyers versus a single seller who is not a monopolist in the

usual sense, the price formation in an auction also depends almost entirely upon the effective bid of the strongest buyer. The reason for such a development is that any good sold in an auction is, in a sense, "non-reproducible" because its quantity is rigidly fixed and each sale is a category by itself. If one wants to be exact one can say, together with Karl Menger, that the price paid in the auction sale is not the greatest which the most eager buyer would be willing to pay but is such a price that removes his nearest competitor, that is, the next strongest (the "extra-marginal") bidder. This implies that the sole bearer of effective demand may enjoy a positive consumer's rent.

There is another case when price formation of a consumption good assumes a peculiar character. This occurs when the commodity represents a good of joint supply. This kind of good tends to become increasingly more important because the more socio-economic progress develops, the more the waste materials, that is, goods which could not be sold at any price, are transformed into saleable "by-products." That joint supply good which commands the comparatively highest effective demand is considered as the main product. For this reason, any by-product may some day become the leading among the jointly produced goods. Thus, for instance, during the second World War, in Germany, not coal but the coal gas which could be turned into synthetic gasoline was treated as the actual main product. The pricing of goods of joint supply, especially if they have a high degree of complementarity, is peculiar inasmuch as a one-sided increase in demand for one product depreciates the other product. If, meat commands a very strong effective demand but there is no considerable demand for hides, one can expect the growing depreciation of the latter product. If the producers do not want to impair the market for hides, they will have to restrict the production of meat, in spite of the strong effective demand for it. Yet, under pure competition, such action often is difficult if the degree of complementarity is high and the number of the sellers is great. Under such circumstances, the aggregate effective demand for the main product might eventually push joint production to the point where the supply of the by-products is so great that they become waste materials or rather free goods. Thus, development of by-products under pure competition is contradictory in its essence. Under such competition, the marginal unit cost of a composite unit must be equal to its combined market price. This implies that when one product becomes valuable (or marketable) its by-products will be sold at a low price unless the proportion in which they are produced is flexible so that it will be possible not to over-produce them. The depreciation of by-products is especially conspicuous when an increase in the output of one product necessarily increases the production of another in the same definite proportion. If the production of one pound

of silver accompanies two pounds of copper and there is a one-sided increase in demand for copper, the price of silver will gradually decline, despite the fact that the composite unit price of joint product may rise.

Although the goods of joint supply are in a sense complementary goods, one should make a clearer distinction between them and the complementary goods in the strict sense than is done by Hicks. This is true when price formation comes into consideration. In other words, the rise in price of one complementary good will only in a long run lower the price of another (through an eventual increase in its production) but in a short run will necessarily raise it—which is not the case when two goods of joint supply are produced.

Up to this point, the discussion has concerned price formation in respect to a consumption good. Some goods of joint supply, such as meat and hides can eventually pertain to final consumption. Only price formation of a durable consumption good assumes another character when such a good, as a house, is distinctly treated as a "bundle of future services."

In the latter case, the price of the good is normally determined through the capitalization of its expected net yield. In real life, not only anticipations with regard to future net revenue (sometimes with reference to probable "opportunity revenues") affect the price of a durable consumption good, such as a house, but also the principle of marginal pairs which looms behind the scene and casts its shadow on price formation. Such a development is inevitable because anticipations themselves are highly sensitive to this fundamental principle. The reason is that any future change in the position of the marginal buyer and seller in the market will affect the position of the buyer if he will have to resell the good.

It is evident that there is a close interrelationship between the price of the reproducible consumption good and the prices of the factors which are used in producing it, even if a rise in the prices of the factors is transmitted to finished products often with diminished force.

This interaction is first of all expressed in terms of money costs. In other words, any price pertaining to a consumption good should cover all the prices paid for the respective productive material goods and services which have to be consumed if the good has to be produced. We shall disregard price formation in respect to the primary factors of production, since in the last analysis it is shaped by the principle of marginal productivity and is discussed in detail in another context. This is logical because the price paid for the services of a primary factor, like labor or capital,

is not only a cost but also distinct income and thus is an object of the theory of distribution. On the other hand, price formation of a secondary factor of production, like iron or cotton, should be mentioned in the present context because it is very closely linked with the prices of finished goods. So the price of iron is largely influenced by the lowest average costs of the actual marginal iron product sold by the actual marginal firm. As a result, the price of all iron products is formed in a broken line since they all belong to the same productive stem and thus depend upon the costs of the marginal iron product. This price depends, however, in a large measure also upon the valuation of the marginal iron product on the part of the actual marginal buyer. In real life there is a great interaction between the price of the marginal iron product and the prices of its "productive relatives" which obscures the importance of the actual marginal product, that is, comparatively the cheapest iron good. If, ship-building greatly expands during a war, it makes iron less available for the production of the marginal iron product and thus raises its price. This in turn affects the price of any other iron good. This case does not refute Bohm-Bawerk's principle of the price formation in a broken line, although the change in prices (over the change in the price of the marginal product) is caused by an increased production of a more valuable iron good. Thus, price formation with regard to a consumption good made of iron assumes a more intricate character than would be expected according to the principle of marginal pairs. However, this principle retains its validity. Besides, the fact that money costs of the actual marginal product of a secondary factor of production, when the marginal productivity of such a factor cannot be assessed on account of its manifold and irregular uses, largely determine the price of this factor, is clearly based on the fundamental principle of scarcity. The scarcer the iron ore, the more expensive becomes its marginal product. In addition, any price formation in a derived broken line implies the validity of the principle of uniform price relative to the fundamental material. So Cassel says correctly that copper required for production of wire will normally have the same price per pound as that required for the production of chains. The more civilization develops, the more marginal utility of the marginal product of an ordinary raw material, such as iron, copper, and cotton decreases and consequently the more production is cheapened. The ultimate reason for such a development is a constant increase in the effective supply of such raw materials.

If one considers not the real capital as a system of real capital goods but a separate specific machine used for the production of some definite goods, its price may be affected roughly by the current price of its marginal finished product although in real life such a machine usually is priced in conformity with its

capitalized net yield. If the specific machine is easily reproduced, its price will be at least seriously influenced by its actual costs of reproduction. Thus, price formation under pure competition cannot be reduced to a single formula. In all possible cases, however, a spontaneous market price will tend to adjust the effective demand to the actual effective supply.

Stigler maintains that under pure competition the market price of a good is the price of the commodity during a period in which its supply is fixed. We cannot approve this contention for two reasons :

1. This definition is one-sided because a spontaneous market price will not be necessarily precise (even in the short run) if there cannot be any change in the supply of the good since effective demand may change at any time for purely psychological reasons and thus will alter the price. One should not forget that any price formation is a two-sided proposition.

2. Since any realized market price is normally a short run phenomenon, it is not necessary to emphasize that the supply of the good is comparatively fixed. Stigler's standpoint is influenced by Marshall's proposition that the short run normal price differs from the long run normal price because in the latter case there will be no fixation even of the plant itself. Such a contention is correct without any qualification if one has in mind "normal" price which depends upon the objectively normal costs that may change in the long run. As to the short run realized market price, the assumption made by Stigler is of some importance only if the price is determined by the anticipated market value with regard to a definite future date and this happens in a short run so that anticipation assumes that the effective supply will remain fixed.

Pure competition is largely based on the two following fundamental principles :

1. Multiplicity of costs which creates a hierarchy of firms and makes possible price formation in conformity with the principle of "marginal pairs."

2. Large scale diseconomy, which normally prevents even the supermarginal producers from working constantly at decreasing average costs.

In contradistinction to an imaginary state of perfect competition when there is no real struggle but an automatic, non-aggressive sharing of a perfect market, pure competition is definitely aggressive although the fight does not assume a personal character. Under such competition, each producer normally endeavors to lower his costs and thus to affect a large number

of his unknown competitors. The pure competition would have to disappear if the large scale diseconomy in the Marshallian sense did not normally prevent even an efficient producer from working constantly under conditions of cost digression. Yet, in spite of this tendency, a business concern sometimes assumes in some branches of the national economy such a scope that it is large in proportion to the total effective demand and thus makes a pure competition impossible. In other words, before such a firm reaches its least cost combination all its competitors will be eliminated. To this category belong transportation, public utilities and finance. Here a price control of a single producer or a small group of producers is quite feasible.

CHAPTER XII

PRICE DETERMINATION UNDER UNFREE COMPETITION

The modern capitalistic national economy is not only a system of individual economies but simultaneously a system of market structures. It is composed of a sector representing pure or free competition and a sector constituting the various forms of unfree competition such as genuine oligopoly, partial monopoly, etc.

The analysis of price formation under pure competition showed that any supermarginal firm in a sense behaves like a monopolist, since it tries to raise its production to the optimum point of output which Joan Robinson defines as the "monopoly point." However this resemblance should not be over-estimated. Joan Robinson minimizes the cleavage existing between monopoly and pure competition (in our terminology) so that according to her an individual seller might be eventually a "monopolist" under free competition. At the other extreme Edward Chamberlin goes far in minimizing any (even a "symbolic") relationship between these two market forms. A real monopolist is a firm which represents the entire industry as producing a rather unique commodity because no one but himself can produce the good and because there is no close substitute which could influence the demand for his product. In other words, monopoly implies complete control over supply by an individual seller. Such a single firm monopolist has nothing to do with "price competition" which is a great concern of any firm under pure competition since it enjoys "price jurisdiction" in Joe Bain's terminology. Yet, a genuine monopolist still has to compete for the "consumer's dollar" because merchandise of any kind is subjected to 'monetary substitution.' This is correctly stressed by B. Higgins and Robert Triffin. Besides, if a monopolist is not simultaneously a monopsonist, *i.e.*, a sole buyer of the factors of production needed by his enterprise, he will have to undergo still ordinary competition as buyer. It is important to note that a single firm monopolist has to face a "non-price competition" which may induce him to incur some selling costs in the Chamberlinian sense. In any case, a genuine monopolist is a peculiar "competitor" who brings to the market a good which differs from that of any other seller. In addition he enjoys a "parameter of actions" since he may select the size of output or the price at which his product will be sold.

Under pure competition only the actual marginal producer influences distinctly, even if unconsciously, the market price while any other producer influences this price as slightly as a "frequency" in a statistical row determines the arithmetic mean. On the other hand, a pure monopolist fixes the price either by means of price differentiation, that is, by means of a "class price" which is based on the purchasing power or the relative importance of the consumer, or by developing a uniform price. In both cases, he tries to maximize his total net revenue. When the single firm monopolist fixes a uniform price, he virtually behaves like a super-marginal firm under pure competition and raises his output (effective supply) to the optimum point which equilibrates marginal costs with marginal revenue. There are, however, at least two fundamental differences between a pure monopolist and a competitive supermarginal firm, namely :

1. A monopolist adjusts price to his optimum point of output while a competitive producer lets the price determine his optimum point.

2. A monopolist does not sell at his normal marginal unit cost nor at his normal marginal unit revenue as is usually the case when a good is sold by a better competitive firm. The normal marginal unit cost of a genuine monopolist lies normally below the price. This is true also of his normal marginal unit revenue because the additional benefit the monopolist gets from one more unit is not as much as its price but less than that price by the receipts lost through the falling price of the other units. Consequently, the main reason for such a development is the fact that in the case of a monopoly an increase in output normally lowers the price of all units of production. On the other hand, the numerical example pertaining to pure competition shows that marginal unit revenue equals the given price because this price is constant for all output. In this case, there is the following development :

TABLE IV

Marginal Produce (units)	Marginal Revenue \$	Marginal Unit Revenue \$
60	108	1.80
50	90	1.80

Under monopoly, the normal marginal unit revenue can be much lower than the price. In addition, a single firm monopolist does not tend to charge the highest price or to obtain the biggest turnover or to apply the least cost combination, but tries solely to get the largest total net revenue. The following example will show the normal fixation of the uniform price as it takes place under genuine monopoly.

TABLE V

In put	Output	Price	Total	Total	Total	Margi-	Margi-	Marg.	Marg.	Marg.
(units)	(sales sche- dute)		cos s	revenue	net Rev.	nal Pro- duct	nal Costs	Unit Cost	Rev.	unit Rev.
(units)	units	\$	\$	\$	\$	(units)	\$	\$	\$	\$
1	100	2.80	1,100	280	—\$20
6	2,190	2.10	1,600	4,599	2,999	(490)	(100)	(0.20)	(689)	1.40
7	2,604	1.90	1,700	4,947.60	3,247.60	414	100	0.24	348.60	0.84
8	2,908	1.75	1,800	5,089	3,289	304	100	0.33	141.40	0.47
9	3,114	1.65	1,900	5,138.10	3,238.10	206	100	0.49	49.10	0.24

Since net revenue is maximized when the good is sold at \$1.75 this price will be selected by the monopolist. It is evident that there is no longer a price formation but a distinct determination of price which, however, depends in a large measure upon the actual elasticity of aggregate demand for the monopolized product. This demand is influenced in its turn by the actual development of the national real income, the "personal distribution," the presence of some potential substitutes, etc. In real life a monopoly precludes a complete elasticity of demand at any given price so that a continuous increase in output will necessarily depreciate the monopolized product. Paul Sweezy says that for this reason a monopolist "making large profits" refuses to invest more capital in his industry if the additional investment may spoil his market. He prefers to search for outside opportunities for investment even though the "rate of profit" obtainable be much lower. In any case, a monopolist whose output has a definite effect upon price must constantly develop an elaborate supply curve which corresponds to a conjectural total demand curve.

The result of an eventual cost reduction is different under a monopoly as compared with free competition. If, under pure competition, the lowest average costs of the current marginal firm drop, the market price falls, and the cost saving is thus passed on to the consumers. Under a monopoly, however, an eventual cost reduction often increases the monopolist's surplus revenue and if his product is subject to a lump sum tax a part of additional net revenue will necessarily be shifted to the state. Since, in Soviet Russia, most market prices are fixed by the government, a cost-saving almost always increases the total surplus revenue which is divided between the government and the individual economy owned by the state. In other words, a cheapening of production by a Soviet state factory is practically never passed on to the consumers. Under a capitalistic monopoly, this is not necessarily the case. On the other hand, when a private mono-

polist is confronted by declining effective demand for his product at the given price without being able to cheapen the output, he either curtails his production or applies sales promotion through advertising or some other methods such as better design, improved quality, more pleasant service, etc. The goal of such a policy is to persuade the buyers to purchase a greater quantity than before at each price which would include the selling costs and to do this at the expense of other industries. Thus, a monopolist may incur selling costs which, however, follow the law of diminishing returns since it costs more to persuade the customers to consume each successive unit. This is correctly emphasized by Chamberlin and John Cronin. Such a policy may eventually enable the monopolist to safeguard the price of his product and the scale of his output through influencing the corresponding effective demand. This fact confirms once more the contention that even if the supply of the good is controlled by a single seller, or by a group of sellers acting as one, the corresponding aggregate effective demand has its own way so that any monopolist must adopt his production and sales to this demand unless he is eventually able through a successful advertising campaign (which means sometimes outright good will advertising) to shape in a certain measure the autonomous market judgement. As any other producer, a genuine monopolist is anxious of precluding a decrease of public interest in his product since for him the fall in demand means that a smaller quantity than before can be sold at each combination of price and selling costs, provided that these costs are considered as a "renounced portion" of his surplus revenue. It is better, however, to treat them as a portion of total costs.

A private monopoly is not necessarily abstaining from cheapening its product in order to pass over to consumers the benefits of cost saving, as the Soviet state monopoly usually does. Since there is no institutionally fixed price which must be kept intact, the private monopolist sometimes cheapens his product for one of the following three reasons :

1. In order to increase the actual demand. He usually expects in such a case that some new persons may get accustomed to his product.

2. To avoid arousing public hostility. Otherwise the state can introduce public regulation of his business and in particular price control. For the same reason, he may incur selling costs by means of goodwill advertising which should not be confused with competitive advertising, since the latter kind of business propaganda is expected to awaken or to increase effective demand for the monopolized product.

3. For fear of attracting some rival firm to invade his field in spite of all barriers. The most probable "price competition"

could be carried out by an eventual producer of a close substitute who would thus destroy the monopoly status of the firm. In this connection Joan Robinson speaks of a "critical level" whose trespassing transforms the very elastic demand curve of a monopolist into a "kinked" curve. Such a curve is more conspicuous under monopoly than in the case of a genuine oligopoly.

Some influential economists, like Marshall and von Wieser, are quite friendly toward private monopoly since they assume that it is compatible with the cheapening of the product. In particular, Marshall stresses that a genuine monopolist eventually can produce cheaper than a firm under pure competition because his large scale production permits cost saving, his monopoly revenue may enable him to do research leading to innovations and his selling costs in principle are moderate. Also, Bain says that a monopolist can be more progressive since his investments are less risky. Yet, a monopoly is unpopular for the following reasons :

1. From the standpoint of *economic theory*. The monopolist, even if he reduces the price of his product, does not sell as many goods at as low a price as he would sell if he were to renounce his monopoly position. This proposition is accepted even by some economists who are in principle friendly towards monopoly, like von Wieser. The criticism of monopoly in this case is carried out in the following different ways :

(a) A monopolist curtails input and output according to the relation between marginal revenue and marginal costs instead of expanding by comparing the "sales price" of marginal product with marginal costs as the competitive producer must do. This makes his price higher and his output smaller than if he increased output until the market price of the marginal product exceeds marginal costs. This first criticism is emphasized by Mary Bowman and George Bach. The following numerical example will make it clear.

Marginal Costs	Marginal Revenue	Sales Price of Marginal Product.
-----	-----	-----
\$	\$	\$
100	141,40	532,00
100	49,10	339,90
100	-116,10	195,30
100	-237,00	87,00

This example shows that the monopolist stops his output at the first stage at which marginal revenue for the last time exceeds marginal costs, although according to his customers preferences, he ought to stop production at the third stage, *i.e.*, before the sales price of the marginal product falls below marginal costs. Under pure

competition, such a problem can not arise because there is no disequilibrium between marginal revenue and the market price of marginal product. Since a monopolist curtails his output before the sales price of marginal product falls below the marginal costs, he violates the main principle of costs from the standpoint of the national economy as a whole which says that one should not stop the increase in output before the consumer's effective demand ceases to cover the costs. It is evident that this case will occur only if the sales price of the marginal product is below the marginal costs.

(b) A monopolist produces less and charges a higher price than a competitive producer with the same capacity and the same costs because if he expanded his output until the price equals the marginal unit cost, as a competitive producer does, his output would be much bigger but his price much lower. Yet, a monopolist never will do this since he is able to maximize his surplus revenue, which is the case when his normal marginal unit cost is far below the price. This proposition is advocated by Cournot, von Stackelberg and Bain. A monopolist tends to curtail his output before the social limit of profitability is reached. Boulding contends that the state should fix the monopolist's price as the lowest price at which his monopoly revenue would be "at the normal level", *i.e.*, not higher than the profit of a competitive supermarginal firm. However, this is very difficult to do in real life since one can hardly treat a monopolist as a least efficient supermarginal entrepreneur and it would be still more unfair to demand that he get only objectively normal interest on his investment because such a policy would reduce him to the status of a marginal producer. There is no doubt that Marshall and Bain are right when they say that a monopolist is more able than anybody else to decrease the objectively normal costs of production of the respective product and thus to make a contribution to the material welfare of the country. In spite of this fact the monopolist always will be criticized because as a result of the negative characteristics of his price determination, he will never use his improvements to the extent that he would have if he were to renounce his monopoly position.

2. From the standpoint of *economic sociology*. Disregarding the purely economic criticism that a monopolist does not produce as much and as cheaply as he could and that he may neglect inventions since his position is secure, the fact remains that his original possible cheapening of price in comparison with pure competition took place at the cost of the eliminated small firms which covered the living expenses of quite a few independent entrepreneurs. Only from a purely economic viewpoint, can one say that a monopoly in such a case removes the "waste of competition." From a sociological viewpoint, however, unless it

is a Marxian standpoint, one must be rather in favour of a higher price if it covers "objectively endurable" costs of a good many small firms, although they surpass the actual "objectively needed" costs of production.

In case of price discrimination, a monopolist applies the principle of equalization of marginal revenues (not, however, of marginal net revenues in Liefmann's sense) because when the marginal revenue in each of the separated markets is the same, the total revenue from both markets is the greatest. This proposition was well elucidated in a numerical way by Professor Boulding.

In the case of perhaps the most conspicuous form of price discrimination, known as "dumping," a monopolist may sell his product abroad at a price below his average costs, provided that the marginal unit revenue at least covers the marginal unit cost. In other words, his average costs in this case will exceed his marginal costs which usually happens when a plant is working at a smaller than optimum capacity. A monopolist who applies the principle of price discrimination will be in equilibrium, not only when the marginal revenues in each market are equalized but when these revenues are equal to the respective marginal costs. Price discrimination is possible if the markets are so separated that the buyers cannot resell to each other. An interesting recent example of a monopolistic price discrimination is the price policy of the Aluminum Company of America (ALCOA). This corporation openly applied discrimination among the prices charged to different classes of buyers. The aluminum contained in an electric cable was sold at a lower price, competitive with copper, whereas the aluminum in some other products was sold at a higher price. Thus, in this case the law of indifference was ostentatiously violated.

The cases in which a single seller of any kind controls the supply of an economic good completely are very rare in practice, either because the Government interferes or because the superior firm is unable to close the entry for a long duration. Yet, an effective barrier to entry of potential rivals is a very essential aspect of a monopoly. The conditions of a single firm monopoly were rather closely approximated in the United States on the eve of World War II in the field of production of aluminum, magnesium metal and air brakes. In the last analysis, a single firm monopoly can appear in one of the following forms :

1. As a *natural* monopoly in the narrower sense, when a natural resource, usually a metal, is spontaneously monopolized by a single producer. There will be a natural monopoly in the broader sense if the optimum scale of a single firm is so large as to over-supply the whole market or if it is inconvenient to the

consumer to be supplied by more than one seller as in the case of telephone service.

2. As an *Institutional* monopoly, which is protected by a legal barrier to entry, like a patent, a copyright and perhaps even a tariff import levy.

3. As a *mixed* monopoly. For instance, mail or control of the water system of a large city, is in part a natural and in part an institutional monopoly.

A natural monopoly in the narrower sense can hardly ever be international, usually it has a national scope and attains an institutional protection, so that it gradually assumes the character of a mixed monopoly. The only major exception was perhaps the Canadian Nickel Company; yet at present it is being challenged by the growing nickel production in the Soviet Union and in French New Caledonia. As to the production of aluminum in the United States, which until 1942 was monopolized by the single firm "ALCOA", it had only a national scope. Furthermore, at present ALCOA's products have to compete with similar products of factories which were created during World War II by the government and later ceded to private capitalists. Another undermining factor is the growing production of magnesium and especially of plastics which far more than steel serve as a substitute for aluminum. The natural monopolies in the broader sense, like public utilities or railroads, have a somewhat stronger position. On account of a rather continuous cost digression, they tend to cut rates on each other until almost all companies, except perhaps one or two, are eliminated. Such a monopoly, however, is usually challenged by some rather effective functional substitutes. So, for instance, electricity has to compete with gas. Furthermore, a natural monopoly in the broader sense controls usually if not necessarily only a limited regional or local market. If two firms suitable for such a monopoly survive in the area, the reason will be their mutual agreement constituting a duopoly. As for the private institutional monopolies which appear by virtue of patents and copyrights created by the government, like, for instance, the United Shoe Machinery Corporation or the Bausch and Lomb Optical Company that produces precision glass (both in America), they are likewise never secure because the institutionally protected product is usually in the long run duplicated as closely as can be without violating the law. This happened for instance, recently to the General Motors "non-draft ventilation" which was developed as a patented product. Besides in the United States, there is only a seventeen year monopoly over the patented article, device or process.

Among all single firm monopolies, a natural monopoly in the broader sense is the most stable and the most defensible because in this case (as Bain correctly says) the single seller usually can produce more efficiently than two or more, so that the aggregate costs of his output are the lowest attainable even though this output may not be such that average costs are at the "optimum level" since he could be able to cheapen his production still more. In such a case the so-called "monopolistic inefficiency" is not added to monopolistic output restriction.

Since a single firm monopoly is hardly existent in our time, most modern monopolies function as the so-called "partial monopoly" which usually controls from fifty to eighty per cent. of the output. To this category belonged, for instance, the Climax Molybdenum Company of America. Such a monopolist, is normally an indisputable "price leader" because his monopolistic optimum point of output coincides with the lowest average costs of his small competitors whom he could undersell without a real loss at any time but whose existence in reality does not bother him. The only difference between such an impure monopolist and a supermarginal producer under pure competition is the fact that he represents the sole superior firm. This development confirms once more the fact that there is a difference between the apparent market structure (here polipoly) and the really given market form (here partial monopoly). In some cases, however, a partial monopoly loses its pure form and assumes an oligopolistic nature.

A partial monopoly appears under modern conditions in one of the following ways :

1. As a genuine partial monopoly, when the price leader is the only firm which gets a profit or rather a monopolistic revenue. This case represents an "impure polipoly." Eventually, the given price leader is not a single firm but a cartel—as this was the case for instance in Germany until the World War II in cement industry.

2. As an incomplete oligopoly, if the price leader fixes the price but there are a few other firms which get a monopolistic revenue, that is, are likewise supermarginal enterprises.

3. As an incomplete duopoly when there is a price leader who gets a much higher monopolistic income than his competitor.

An intermediate case would be when there is an apparent polipoly but one among several supermarginal firms acts as an indisputable price leader. Here polipoly will also be impure.

Only a genuine partial monopoly is, however, a distinct independent category which deserves such a name.

There are two differences between a single firm monopoly and a genuine partial monopoly, namely :

1. A partial monopoly is a polipoly in which there is only one supermarginal firm.

2. Under partial monopoly, a price differentiation is not always possible because the average costs of the small competitors are below the price which the monopolist would charge the buyers of the "highest class," who have the greatest ability to pay so that just his best customers would be lost to the competing satellites, provided of course that he treats them in the above-mentioned way.

As already pointed out, a partial monopoly is sometimes an incomplete *duopoly*. Yet, this kind of duopoly can appear in the following two ways :

1. The high capacity firm sells at its price, that is, at its optimum point of output or, in other words, applies the "law of lucrative offer" in von Stackelberg's terminology. The other firm accepts this price often through a tacit understanding although in this case, it must stop production before its optimum point of output is reached. Hence it will have to maximize its surplus revenue at a higher price than it would have selected otherwise. Any struggle would be impossible because the leading firm would have undersold its weaker rival. Usually the satellite firm survives peacefully in a traditionally uncontested locality. Both firms sell a homogeneous product, so that the weaker firm has to accept the price leadership of the strong rival by taking passively his decisions as "parameters of actions." The question, why the stronger firm abstains from destroying the weaker competitor, can be explained by the fact that it is anxious to avoid the large scale diseconomy (in particular with regard to management) and that it is never sure how far the competing firm could be uprooted in its traditionally uncontested areas because, as Joan Robinson indicates a physically homogeneous commodity sometimes functions as a differentiated product if in the given locality there is a special predilection for the name of a particular firm. Yet, despite these reasons the stronger duopolist is likely to start the fight if his competitor does not accept him as the price leader.

2. The high capacity firm agrees to assign a fixed production quota to the other firm and shapes its own price and output accordingly. In this case, there is no necessity of finding out tentatively the sale of the competing weaker producer. The following example illustrates this development.

Price	Possible Sales	Quota assigned to the competitor.	Own Sales	Net Revenue	Total Surplus Revenue.
(per unit)	(entire ind. in units)	(in units)	(in units)	(per unit)	
\$				\$	\$
37	1,200	400	800	10	8,000
36	1,300	400	900	9	8,100
35	1,400	400	1,000	8	8,000
34	1,500	400	1,100	7	7,700
(sales schedule)					

It is a rare case if a weaker duopolist gladly agrees to be submissive and to sell a fixed quota at a price determined by his rival who develops the conjectural aggregate demand curve. On the other hand, it is still more unlikely that he will venture to try to challenge the stronger firm unless he doubts that his inferiority is a fact because the ensuing price cutting campaign may easily lower the price below his average costs. Also some habitual devices, like premiums, coupons, etc. cannot serve under duopoly as a hidden price cut. For all these reasons the duopolists usually adopt a policy of live and let live with respect to each other. This idea was familiar to Cournot who created the theory of duopoly by considering the so-called "complete duopoly," when both firms are equally powerful and share the market equally although there is no tacit agreement among them. Such a duopoly arises because sometimes demand is small relative to the optimum scale of enterprise and the entire industry is characterized by decreasing costs. Since, in such a case, the aggregate effective demand is insufficient to support two firms at the optimum scale and a price cutting would have eliminated one of the firms they prefer to have an actual agreement or at least to act as if there were an agreement. In principle, the size of a firm in an industry tends to be large if average costs begin to rise at a relatively big output. Since, for instance, in agriculture there is a reverse cost development, this branch of the national economy is characterised by rather small sized business units. Here the least cost combination is attained quickly.

Cournot came to the conclusion that under a complete duopoly, the output and the "monopolistic gain" of each producer will be equal while the price will be lower, the entire output larger and the combined income smaller than under conditions of a single firm monopoly. This development is illustrated by the following numerical scheme :

Price \$	15	10	7	5	4	3	2	1
Total Possible	100	200	300	400	500	600	700	800
Sales (effective demand in units)								

Should competi- tor's sales amount to the following quantity.	One's own		sales will (turnover)		develop as		follows (in \$)	
0	1,500	2,000	2,100	,000	2,000	1,800	1,400	800
100	—	1,000	1,400	1,500	1,600	1,500	1,200	700
200	—	—	700	1,000	1,200	1,200	1,000	600
300	—	—	—	500	800	900	800	500
400	—	—	—	—	400	600	600	400

If the product were monopolized, the monopolist would have sold 300 units at \$7.00 per unit so that his sales would have amounted to \$2,100. On the other hand, each cooperating duopolist will sell 300 units at \$3.00 per unit so that the entire turnover amounting to 600 units will be sold at \$1,800. It is evident that in such a case, competition is no longer aggressive and the consumers enjoy a larger and cheaper production. An example of a peaceful duopoly represented by two producers of an equal strength is the American production of plate glass shared by the Pittsburgh Plate Glass Company and Libbey-Owens—Ford Glass Company. On the other hand, the likewise peaceful American duopoly in the field of the importing of bananas is based on the price leadership of the United Fruit Company. In this case, the duopoly is not complete because both firms control ninety per cent. of the respective imported products.

The impulse toward cooperation is equally strong in the case of a genuine *oligopoly*. This is a situation in which there are only a few, yet more than two independent sellers of a homogeneous product (often a secondary factor of production) while conditions of demand remain purely competitive. The term "oligopoly" was used in Germany by Karl Schlesinger still in 1914. The main feature of this market form is that of a duopoly is the fact that each seller must take into account the behavior of his competitors (including their investment policy) who are likely to retaliate through price cutting should he try to undersell them. A firm which starts price cutting may find itself with a lower revenue because of increased selling costs (in connection with a fierce advertising campaign) and on account of a decreasing price which can eventually fall below the average costs of the firm. In a genuine oligopoly, no business concern can act

relentlessly or be a price leader but must constantly take into account the reaction of its powerful competitors. Under such conditions, that is, when there is a complete oligopoly, the price of the respective homogeneous product is in principle unstable and there will be no equilibrium in the market unless it is somehow established in an institutional way. In the latter case, there will be organized, *i.e.*, a rationally restricted non-aggressive competition. In particular von Stackelberg stresses that in the case of a complete oligopoly there normally is a tendency to establish an artificial (institutional) equilibrium in the longer run. Since, at present, every oligopolist possesses a large amount of fixed real capital which is in part highly specific, prolonged price cutting becomes so dangerous to him that he prefers to come to terms with his rivals at the earliest opportunity. For this reason, a genuine oligopolist only at the most co-determines directly the price of his product and abstains from aggressive competition. Each oligopolist is of such a size that a change in his output could appreciably affect the market price. This is the reason why his price lowering policy will provoke an immediate retaliation by his competitors, especially when they do not operate at close to capacity output, and why an oligopoly tends to assume the character of non-aggressive or of a "limited" competition in Cournot's terminology. A complete oligopoly never can have a price leader. Since, for instance, the American Steel factories accepted the prices of the U.S. Steel Corporation and competed only under this "umbrella" by means of various forms of sales promotion (or non-price competition) like advertising, friendly service, aggressive salesmanship, etc., the American Steel Industry ought to be defined at that time as an incomplete oligopoly.

In general, an oligopoly pertaining to a homogeneous product can appear in one of the following forms :

1. As an incomplete oligopoly which is a common case and should be subdivided as follows :
 - (a) Partial monopoly when, there is a recognized price leader followed by some supermarginal satellites. Such an incomplete oligopoly can be eventually organized as a cartel which will be impure.
 - (b) An incomplete oligopoly in the narrower sense when there are at least two price leaders within a comparatively small and closed group of producers.
2. As a genuine or complete oligopoly which should be subdivided as follows :
 - (a) Organized oligopoly, in particular a cartel, provided that there is no distinct price leader among its members.

- (b) **Unorganized genuine oligopoly.** In this latter case, there can be a strong competition which, however, will not develop into cut-throat rivalry. There is no price leader whatsoever but it can happen that a few firms control a large portion of the respective output.

The following numerical example illustrates price determination in the case of a genuine oligopoly when there is no price leadership and the members of the closed group make at least a tacit agreement :

Price	Possible Aggregate Sales	Quota of Each Competitor	Surplus Revenue per unit	Total Surplus Revenue of Entire Group.
(per unit) \$	(units)	(units)	\$	\$
10	1,200	400	5.00	6,000
9	1,300	apr. 433	4.50	5,850
8	1,400	apr. 466	3.20	4,480
7	1,500	500	2.80	4,200

If an oligopolist sells cheaper and thus breaks the agreement, he will only lower his total net revenue, at least in the long run because his competitors will retaliate. Since his product is the same, he has no chance of conquering the market. On the other hand, he is too big to be left alone by his rivals even if his aggressive policy is limited to skillful manipulative advertising. Thus, under conditions of a genuine oligopoly, the producers usually form a cartel which develops a market sharing program. In other words, they enter into actual agreements to establish and maintain uniform price and terms of sale. If the selected uniform price is such that the weakest participating firm is able to get more than the objectively normal net revenue which could be earned by a marginal firm under pure competition, this least fortunate firm still plays the role of a regular marginal firm even if within an artificially restricted or closed group. Thus, an oligopolistic cartel tends to restrict the output and to make the product more expensive than it would be under free competition. The main reason is that in such a case the marginal firm is artificially selected as a firm of the "upper margin." Should an outside firm try to enter the field, the cartel will hit it through price cutting even if such a policy forced the closed group to assist temporarily its weakest members. A regular cartel usually has a special fund used for this purpose. Since a cartel is an institution created by a closed group of "collusive oligopolists", in Bain's terminology, a newcomer to the industry can enter only by buying a "quota" from an established producer. The price of the quota is presumably such that the newcomer will at most have a strictly normalized surplus revenue. It sometimes occurs

that a cartel cheapens the product if it is able to buy the necessary factors of production at a lower price. Yet, usually this is not the case because the stronger members of the cartel simply get an additional advantage when they develop as vertical trusts, which by means of a direct integration of successive stages of production attain considerable cost saving. Should this happen to a couple of firms the cartel can easily degenerate into an incomplete oligopoly.

There is likewise no genuine oligopoly but rather the co-existence of some local non-competing monopolists if there is a definite allocation of markets by an agreement so that each producer of the homogeneous product domineers freely a certain indisputable "sales area." A genuine organized oligopoly is especially stable if its participants have nearly the same costs of production, jointly control the basic raw materials for their production and can exclude any new firm from the field by patent control and resource monopolization. It is evident that a cartel can close the field of production more easily when the initial money investment is so high that capital hesitates to flow into the industry.

A cartel normally represents a complete oligopoly which somehow reconciles a few, nearly equally large and efficient competitors. There are, however, some economists like Walter Eucken and von Stackelberg who define a cartel as a "collective monopoly." Such a contention is based on the fact that a regular cartel is a group which acts as if it were a single producer. One cannot deny that price policy of a cartel can be identical with that of a real monopolist and often chooses an output that holds marginal unit cost below the selected market price. Yet, definition of Eucken is undesirable because it disregards the fact that a cartel frequently only outwardly is a distinct monopolist, while inside it represents a certain oligopolistic unstable equilibrium since its weaker members never are completely certain about their quotas and even sometimes about their very existence, which is stressed by Fritz Sternberg. Thus, a cartel is rather a peculiar oligopoly of a kinetic nature. For this reason, it may eventually degenerate into a price leadership or into an incomplete oligopoly in which each competitor of the price leaders is still able to get something more than an objectively normal net revenue. In the latter case there will be at the most an impure cartel which hardly is a cartel at all. The cartel movement reached its highest development in Germany but it has been strong elsewhere in Western Europe. In America cartels are illegal under Anti-Trust laws; yet at least until recently, one could speak of a cement cartel which as such was devoid of a national price leadership in contradistinction to the American Steel industry for instance. It distinctly applied an elaborate multiple "basing

system". There were about sixty cement mills which were accepted as the bases and all deliveries were computed at selected price plus freight from the given base. Thus, normalization of price was artificially secured by this oligopolistic industry.

Usually, however, an American genuine oligopoly is unorganized and its almost equally powerful members are aggressive in sales promotion without a tendency toward a price cutting policy. Such a policy is too risky because when an oligopolistic firm lowers its price and its nearly equally powerful competitors do the same, it will be in just the same competitive position as before but with much lower revenue. A good example of an American unorganized genuine oligopoly is iron ore production.

If a genuine oligopoly is rather rare in the United States, this is not true about an incomplete oligopoly which is a far more frequent phenomenon. It involves almost perfect control of a restricted industry by a few leading firms which largely possess the respective strategic resources or patents on essential techniques. In such a case, there is no national price leader and the entire restricted field is dominated by a small number of firms which exercise a loose joint price leadership. So, for instance, two firms in America lead the production of biscuits and chemical nitrogen without, however, tendency to undersell each other, or somebody else in the given field of production. Furthermore, an American oligopoly of a related kind is sometimes developed as a pool of patents, which was typical, for instance, of the radio industry or of the production of gypsum. The fact that in the United States the development of an organized genuine oligopoly is obstructed can be explained chiefly by the presence of the Anti-Trust laws which are inimical also to the pooling of patents, so that semi-organized incomplete oligopoly also meets with a serious institutional impediment.

However, there is one kind of unorganized peculiar oligopoly that is less handicapped, namely, an oligopolistic production of some brands or differentiated products, which are, in a sense, substitutes for each other. This involves the problem of the so-called *monopolistic competition* that can be defined also as *impure* competition, whereby it is based on the hierarchy of brands which is, however, not always distinct.

An oligopoly of this kind which is defined by Joe Bain as "differentiated oligopoly" often represents a loose group of sellers who trade in autonomous brands which frequently are such close substitutes that every seller must be concerned with the reaction of his policies upon the other firms belonging to the restricted group. In the case of such an oligopolistic competition, a firm does not represent the entire industry, only a heterogeneous

product; yet, it still has a monopolistic tinge because—as Chamberlin puts it—such a firm has a monopoly of its own variety of products. This is especially true if the brands have a very low degree of mutual substitutability, because under such conditions, the behavior of competitors is no longer very important so that monopolistic competition will come very close to a mere co-existence of several pure monopolists who compete with each other—which is correctly stressed by Chamberlin. Each producer in this case will be normally a distinct super-marginal firm. If, however, the brands have a high degree of substitutability, the members of the restricted group of producers will behave like typical oligopolists and thus will tend to avoid aggressive price policy. Competition in such a case is normally along the lines of sales promotion, service, and attempts at emphasizing differentiation which turns customers' attention away from price. The fact that such a policy usually succeeds should not be explained only by the lack of knowledge on the buyer's side, as Stigler assumes, but also by variety of tastes, as is correctly stressed by Chamberlin. The product under these circumstances is an intermediate good composed of some material and immaterial elements since it bears a trade mark and is connected with some specific services. For this reason, every differentiated product is, in a sense, a separate commodity, *i.e.* is not a real substitute for the product of any other firm in the mind of the buyers. The entry into an industry representing a differentiated oligopoly is institutionally impeded and besides is usually difficult because of the heavy investment needed for equipment, sales and service facilities. The first economist who analyzed impure oligopolistic competition was Pareto. The best example for such an oligopoly based on product differentiation is the production of automobiles and typewriters in America.

Not every trade in brands is, however, oligopolistic. On the contrary, this kind of impure competition develops under modern conditions very often as a polipolistic phenomenon because the differentiation of products becomes more frequent, although not as frequent as Chamberlin and Samuelson assume. Bain's standpoint is that in the American economy polipolistic competition is less important than oligopoly because in his opinion most American mineral extractive industries, basic processing industries, assembly works and a considerable portion of manufacturing have an oligopolistic structure. Even retailing has oligopolistic tinge on account of the spreading chain stores. Yet, a non-oligopolistic impure competition now-a-days has an undeniable significance. The main reason for such a development is perhaps the fact that advertising makes product differentiation subject to the influence, not only of a locality factor, or a physical factor (for instance, better design), but also of the psychic factor which shapes quite a few purely subjective pre-

ferences and thus brings about a fancied product differentiation which is, however, effective. So, for instance, Craft Cheese is usually considered by American consumers as a better product than the same quality in another wrapper. Competitive advertising under monopolistic competition as well as in oligopoly, largely uses the radio, films, periodicals, etc. It is very much favored by the fact that impure competition frequently pertains to the differentiated consumption goods whose buyers sometimes are price unconscious and are affected by emotional appeals. In any case, such buyers almost never purchase to specification. Boulding is in principle right when he contends that impure competition, especially that of a polipolistic nature, represents from a purely economic standpoint a "waste of distribution" because it develops distinctly competitive advertising which he calls a "clear social waste" and leads to an overabundant multiplication of small firms that are sheltered behind their little walls. If, however the latter fact is considered from a sociological viewpoint one will come to a different opinion. Monopolistic competition may eventually contribute to the development of better taste and perform an important cultural service by sharing in the costs of publishing periodicals and newspapers through advertising. On the other hand, Chamberlin points out correctly that such competition makes the price higher and the scale of production lower than would be the case under pure competition.

Monopolistic competition conceived as an impure polipolistic competition appears in the two following ways :

1. As true competition of the above type. Each firm represents a heterogeneous product or brand. Within such a group, there is a hierarchy of firms since some brands are comparatively more profitable. From the standpoint of the national economy as a whole, *i.e.*, outwardly, each firm will be normally a supermarginal one. An objectively marginal brand will hardly survive, although such a development may eventually take place. Any factory producing a certain brand may simultaneously produce another product subjected to pure competition.

2. As conditional impure competition whose existence was in particular realized by Irving Fisher and A.B. Wolfe. The firms do not monopolize brands in the narrower sense; yet, all their products assume an "intermediate" character on account of locational and psychic factors. This is typical of retail trade based on a faithful clientele. Here many firms are marginal from any viewpoint.

If a firm with a small share of the market has a large capacity for producing a close substitute as a separate brand and refuses to raise its price, other firms may follow. Yet, in principle, when the trade in brands is not oligopolistic, so that there is a

large amount of sellers, no firm pays close attention to the price policy of its numerous not very powerful competitors. Also, an agreement or a collusive action is impossible in such a case. On the other hand, every individual seller under monopolistic competition is very mindful of the effect of his price policy upon the consumers; in other words, he fights for the consumer's dollar.

In the case of impure polipolistic competition, there is no oligopoly because there are quite a few sellers of close substitutes. On the other hand, there is no pure competition since every firm represents a trade marked brand name, a patented process or is at least somehow favored by its clientele. When monopolistic competition has an unconditional character, the entry of competing firms is institutionally impeded; in such a case, one can only introduce a new brand.

The sales curve of each firm under monopolistic competition of any kind is not perfectly elastic since price cutting will not bring it consumers in large numbers from the competitors. This implies that the elasticity of one's sales curve will depend upon the number and importance of difference which the firm has established. A consumer will not entirely stop buying a differentiated product if he is unable to get his favorite brand but he may be willing to wait a considerable period until his dealer procures the wanted trade mark. This means that under such conditions, a producer can easily charge a comparatively high price for his branded article if he was so successful in differentiating his product that substitution was discouraged. Boulding is right when he says that it is advantageous to make a product as much like others as possible through imitation without, however, destroying its differentiation. This fact shows a contradictory development of the psychology of a modern buyer. On one hand, he is liable to mass-psychosis and thus is in favor of standardized products. He is almost ashamed of not imitating the conduct of other people. On the other hand, the growing differentiation of products stimulates his desire for having refined taste. Modern advertising serves simultaneously both purposes. Thus, a differentiation of the products which has a comparatively low degree seems to be the most appropriate and is, in a sense, a synthetic policy of the modern producer under monopolistic competition. The unconditional impure polipolistic competition which is but one kind of unfree competition, embraces quite a few essential articles, at least in the United States, including breakfast food, tooth paste, shaving cream, aspirin, hair oil, gasoline, cigarettes, etc. It sometimes happens that the seller of a differentiated product establishes a short run quasi monopoly. It is, however, unlikely that in the long run the trade mark will not be challenged by a well advertised close substitute. Under impure polipolistic

competition prices tend to be comparatively high because they have to include quite extensive selling costs, although they do not rise as much as under differentiated oligopoly. On the other hand, each producer under impure polipolistic competition tends to improve his product constantly. Since any type of monopolistic competition is but a kind of unfree competition, it has much in common with genuine monopoly; yet in contradistinction to the latter market-form it is by far more subjected to the very conspicuous limitations of substitution or possible entry of new firms introducing a close substitute and in addition is threatened by a probable reaction, in particular retaliation of other firms in the field.

Sometimes an industry in the area is so mixed that its character is confusing at first sight. A good example is shipping in California which has the following characteristics :

1. There is in principle free entry. Yet, this entry is not entirely unrestricted. So a ship serving another region of the United States may enter competition. Otherwise, a licence must be obtained from the government.

2. There are only a few firms producing a homogeneous product, which is ultimately a service.

3. There is a serious inter-industrial competition, in particular with regard to the railroads. Foreign competition also is a factor.

4. The industry is in permanent disequilibrium because no institutional interference creates artificial equilibrium. Hence, there is a continuous predominance of submarginal firms and a distinct appearance of a quasi rent in the broader sense.

5. There is permanent cut-throat rivalry.

Our conclusion is that shipping in California conceived as a regional industry represents mitigated pure competition. If it were an oligopoly, there would be an institutional agreement in the long run. Even an incomplete oligopoly excludes a price cutting campaign for a long period. Thus, in a dynamic economy, a market-form often cannot be determined at a glance.

In real life a producer who is able to fix the price of his product does not care to find his optimum point of output sometimes, but applies a "rule of the thumb" method by shaping his policy in such a way that the product is offered at the short run variable unit cost plus an allowance for overhead and objectively normal net revenue which is raised in the case of prosperity and lowered in a depression. Joan Robinson stresses that even a pure monopolist is unable to hit upon the optimum point of

output unless the conditions of demand and supply remain constant over a long period so that he will have a fair knowledge of the market conditions in which he has to sell. The "random method" also is applied by many, not exactly competitive retailers, who set their prices by such arbitrary mark-up formula if they want to have a comparatively rigid price policy and try to forestall additional entry. It is evident that such a price policy carried out by producers or pure sellers violates the scientific "marginal method" which enables the determination of the most profitable price found at the optimum point of output. Yet, Professor Tarschis tries to prove that the "rule of thumb" method gives practically the same result as the marginal method if the percentage of "mark-up" is carefully chosen. His conclusion is based on two assumptions, namely :

1. The determination of price according to the "marginal method" is fixed by the formula : $p = M \left(\frac{e}{e-1} \right)$, where M is the marginal cost and e represents the elasticity of demand for the given product. This implies that the good is sold at the marginal cost plus a fixed percentage.
2. Marginal and variable unit costs are nearly equal at normal output.

In criticism of the above-mentioned proposition of Tarshis, we have to say that he wrongly identifies marginal costs with marginal unit cost. There is no doubt that in the case of a non-competitive price formation the marginal unit cost equals the variable unit cost at the optimum point of output. Yet, the difference between the most profitable "monopoly price" and the normal marginal unit cost is likely to be bigger than the "allowance" proposed by Tarshis in conformity with his formula. Thus, a scientific defence of the arbitrary "rule of thumb" method gives a rather dubious result.

Any market structure which shapes or determines the status of the sellers may appear in reverse sense, namely, it can be applied to the buyer's position. When there is free competition among buyers their status may be defined as polipsony. Bohm-Bawerk's "law of marginal pairs" is largely based on such a buyer's position. The market-form will be defined as monopsony if a single buyer demands the good and as an oligopsony if there are only a few physical persons or firms who develop an effective demand for it. In all such cases, the price theory easily finds an adequate answer because there is practically no new problem but only a reverse setting of the same problem. Price formation here will be influenced or determined by the buyers who, in contradistinction to the sellers, are interested in the cheapening of the goods with which they are concerned. Under normal capitalistic

conditions monopsony appears seldom and then only as a strictly limited regional phenomenon. The more the monopsonist buys the more he raises the price of the good. Consequently, he cares for the marginal outlay resulting from the purchase of one more unit. For example, to maximize his return on sugar, he will purchase such a quantity that his marginal outlay just equals the objectively expected price of the last added quantity of sugar. When a single firm or a small group of firms is a sole purchaser of a product, they easily influence the price and sometimes are able to bring suppliers into complete dependence. In particular an oligopsony which is a comparatively familiar market-form in modern capitalism can be powerful enough to build its own plants if the suppliers of the product reject close cooperation. Normally, an oligopsony is tacitly organized and each buyer is non-aggressive in his price policy, preferring to keep the price of the goods he purchases low, rather than to bid them up through competitive demand. All the techniques of agreements, market sharing and the like which are effective in the selling policy of an oligopoly are equally effective in the buying policy of an oligopsony. Some very important American industries, such as petroleum production, tyre and tube industries, steel rails' production, raw tobacco growers, etc. are confronted with a restricted number of buyers who are mindful of their common interest and thus influence price formation. So, for instance, the price charged by the petroleum industry would be more flexible if there were no oligopsony on the part of the large refiners and owners of pipe lines. In American contemporary practice also is found combination of oligopoly and oligopsony that can be defined as an economic bilateral oligarchy. The rubber tyre industry might serve as an example of such a case. The expression "bilateral oligopoly" used for instance by Stigler and Bain when they speak of the combination of these two market forms is, in our opinion, undesirable from a purely logical standpoint.

CHAPTER XIII

NATIONAL INCOME AND INDIVIDUAL INCOME

In economics there are two approaches to the concept of distribution of the national income, namely :

1. *Functional distribution* which in general means that the social product is distributed over all productive agents who participate in production (in any sense) and thus perform a function from the standpoint of the national economy as a whole. On the other hand, functional distribution in the narrow sense refers only to the apportionment of the national income among the technically productive primary factors of production which are rewarded for their respective parts in the complex process of the total production of goods. So, for instance, providers of fixed resources, in particular of natural land, are rewarded with rent, workers sell their services for wages, owners of factory equipment get interest, etc.

Functional distribution operates through the price mechanism. In the narrow sense it involves a special application of price theory because the primary factors of production remunerated for their services are confronted only by a "secondary" or a derived demand. For this reason, the services of such productive agents are in principle estimated with regard to their marginal productivity which is measured in terms of the contribution to total revenue made by the "normal" marginal unit of these factors which is employed at the optimum point of input. It is evident that functional distribution in the narrower sense is a distinct problem of economic theory because in the last analysis it concerns the relation between man and matter like, for instance, the question of labor versus machinery in terms of the relationship between wages and rate of interest. In general, functional distribution does not pertain to the total rewards of individual persons but to the remuneration of the functions which are performed by these persons or by the property they own.

2. *Personal distribution* which refers to the apportionment of national income among different individuals or social groups. An analysis along this line is stimulated chiefly by considerations of inequality (*i.e.*, wealth versus poverty) and of social policy (including the forms of taxation). Personal distribution, in principle, pertains to economic sociology because in the last analysis it concerns the social background of functional distribution. The classical economists, in particular Ricardo, developed a

theory of functional distribution in terms of personal distribution which was a serious mistake in logic. Only personal distribution is interested in the social classes like capitalists or land-owners, while functional distribution cares exclusively for the factors of production, like real capital or natural resources.

Under modern capitalistic conditions a realistic theory of personal distribution can be developed only along a social-psychological line and is more than ever divorced from functional distribution because at present a good many persons derive their income from several factors of production which they own at least in part. Not only merchants and independent farmers draw income from several sources at once but even an unskilled factory worker may get an interest and may participate in profits if he happens to be a modest capitalist who owns some securities.

Very often a man's conduct in respect to personal distribution is determined not by the actual share in national income but by a rather arbitrary "class consciousness." So a self-made man may continue to feel like a wage earner or on the contrary a manual worker may sympathize with capitalists if he happens to have some savings. Besides, personal distribution is affected in addition by gifts, inheritance, and by taxation. Not only may an inheritance influence one's conduct toward personal distribution but sometimes even the mere expectation of it. A certain change in the system of personal distribution is caused also by government expenditures, in particular by public works.

For distinct simplification, personal distribution is exclusively a question of ownership, while functional distribution is based on productivity or functional usefulness, especially of the primary factors of production. In each case, one has nothing to do with the location of material goods and services. Economic theory sometimes uses the concept of distribution in this other sense. So, for instance, commerce and transportation are often defined as "distributive agents" because they help to distribute the goods over different places and periods of time.

Distribution which is discussed in the present context pertains in particular to the national real income or social product that is to be shared. This definition implies that national real income has a certain size or limitation. There are two different approaches to the concept of social product from a logical viewpoint, namely :

1. *Static* : National real income is an aggregate product (i.e. the net total of commodities including services) which was produced in a given period of time by people comprising a nation and which is to be distributed among the respective individuals in

return for assistance in producing the material goods and services. Thus, each individual and any social group who take a share in the production of the social product get a remuneration out of this product and are enabled to consume, to save, or to hoard.

Such a static concept of national income is promoted by most contemporary economists, including Cassel, Von Wieser, Hicks, Simon Kuznets, to name but a few.

In Schumpeter's kindred definition he says that social product is like a basket into which one puts something in order to take out another good in exchange.

2. *Dynamic* : National real income is a flow of incoming material goods and services in a given period of time caused by productive agents of any kind, no matter if these "takings" are derived from the national assets even in a broader sense (*i.e.*, including labor inventory) or are flowing from abroad.*

This definition is advocated especially by Spann. Irving Fisher uses a similar approach in a more conservative way by maintaining that the respective "takings" are derived only from the real capital goods. He is, however, more interested in defining the income of an individual than of the national economy as a whole.

A distinct dynamic approach to the concept of social product in a somewhat different way can be traced in the works of Schumpeter and Cassel who frequently emphasize that in the last analysis any national income is a continuous flow.

There is still another extremely important approach to the concept of national real income which likewise makes a distinction between statics and dynamics but takes for its starting point a scale of approximations pertaining to the static and dynamic models of the national economy. According to this approach, the national real income (*i.e.* social product) in a static economy is as follows : Current production of material consumption goods and services which are produced and consumed in the given period of time plus reproduction of real capital plus reproduction of immaterial wealth, in particular knowledge.

This standpoint is partly shared by Cassel. Even a stationary economy would be unable to exist if there were no reproduction of a constant amount of real capital and of knowledge at least in terms of technical devices, so that its annual total production must contain such items.

In a dynamic economy, the formula of the national real income is composed of the same items and two additional items which show the increase in real capital and in immaterial wealth.

*In the latter case the real income will contain an unguine item if some imported goods were purchased on credit.

It is evident that this increase pertains to a given period of time. Under dynamic conditions, the portion of social product relating to personal services is very important and can be described as follows : services produced and simultaneously consumed plus reproduction of immaterial wealth (knowledge) plus increase in immaterial wealth (inventions). The last item gets an extremely dynamic character when at least a part of new inventions is actualized during the period as innovations which change the previous mode of combining some productive agents. In real life, the reproduction and multiplication of immaterial wealth, *i.e.*, of intellectual, aesthetic and moral values by means of personal services is a continuous process. Any engineer and each university teacher reproduces and sometimes (if he is a creative personality) increases knowledge. Any active priest is expected to keep up the spiritual wealth which was accumulated by his numerous predecessors. Such a system of religious ideas is at least a productive force inasmuch as it improves the moral and thus social background of the whole economic life and for this reason facilitates any kind of production. This was in particular stressed by the German romantic school. It is rather amazing that an outstanding economist like Frank Knight, does not use this point although Napoleon I, who was opposed to any church would have undersigned the above statement, since he realized that the church is a distinct creator of community-maturity and thus acts as a great stabilizer. One gets impression that Knight wants to replace religion by sportsmanship which according to him is the best practical and moral ideal produced by modern civilization since it develops morality, intelligence, good taste, enjoyment, emulation, camaraderie, etc. This is, however, a very controversial standpoint especially at present when sportsmanship has largely lost its formerly rather gallant and aesthetic nature, so that it is distinctly lowered to the level of a commercialized profession, which is recognized by Arnold Toynbee.

Since, in real life, the assessment of most immaterial items of the national real income is a difficult task, almost any professional economist reduces the formula of social product to its more tangible items relating to the production of material consumers' goods and the most perceptible services, like those of commerce and transportation, to the reproduction of real capital and to the "net investment", that is, to the increase in real capital. Yet, in practice any formula of the national real income is but a modest approximation to reality as long as it disregards the tremendous productive force represented by knowledge of any kind and often expressed in terms of patents. Even some rather positivistically-minded economists, like Jevons or Marshall, consider knowledge as an important factor in their theories of distribution. For instance, Jevons in his main work says that we must regard labor, land, knowledge, and capital as conjoint conditions of the whole

product, while Marshall maintains that the motives which induce a man to accumulate "personal capital" in his son's education are similar to those which control the accumulation of material capital for the same son. Also, Schumpeter shows a high respect for knowledge as a productive force in his dynamic theory of distribution.

Any formula of the national real income pertaining to material wealth and tangible services raises two complex and controversial problems of great theoretical importance, namely : The first question which arises reads as follows : Is the national real income shown by the above-cited formulae a net product ? It is not. From the standpoint of an accountant, it is a peculiar gross-revenue which combines the increase in real capital goods and in stocks of consumption goods (*i.e.*, the customary "net income") with such unfamiliar items as production of goods which are in the given period consumed, and especially the reproduction of the productively consumed and institutionally or naturally depleted real capital, or better, production of the real capital goods meant for replacement. From the standpoint of economic theory, social product of the above-cited kind devised in particular by the British White Paper should be treated as real income obtained by the entire national economy, although income, in principle is that part of revenue which can be consumed without depleting real wealth. Such an "income" is a gross product and this only because its formula includes reproduction of real capital and must do this for the following two reasons :

1. It is impossible to discriminate the real capital goods used for replacement since they are similar to those goods which represent the so-called "net investment" and likewise require deferment of consumption as opportunity cost.

2. Reproduction of real capital is, in a sense, a logical category and must be carried out even under conditions of the most abstract stationary economy.

In the case of national real income, the term income should not be used in its usual sense because real income has here the connotation of national product. The formula shows the gross social product because if this product were totally and finally consumed the national economy would not be as well off at the end of the period as it had been at the beginning. In other words, replacement goods should not be consumed during the period.

On the other hand, Hicks is consistent when in his book pertaining (in his opinion) to "social accounting", he considers only the net investment when he speaks of social product since he selects a much narrower perspective. J.M. Keynes' renowned formula reads as follows : National net income equals national

gross income minus aggregate user costs (*i.e.*, productive consumption of a portion of real capital) minus aggregate supplementary costs (*i.e.*, natural obsolescence of a still lesser portion of real capital). All data pertain to a given period. In our formula, the reproduction of real capital comprises both kinds of Keynesian costs. The difference between our formula and that of Keynes is only our tendency to identify social product with "national gross income" in his terminology.

The second question is whether the value of the social product, measurable in money, equals the sum of individual money incomes and whether current incomes spent purchase the whole social (or general) output during the given period.

Hicks is right when he says that in the first case social output is considered on its earning side and in the second case on its spending side. He is wrong, however, when he wants to answer both questions in an affirmative manner. Only in the first case and with reservations should the answer be affirmative. There is a nominal equality between the social product measurable in money and the sum of individual money incomes in the given period because there is no cost item from the standpoint of an individual which if it is an outlay to a factor would not be in principle an income from the standpoint of another individual. On the other hand, costs like amortization or an "expenditure" on reserves which do not represent an outlay to the factors are, only in a sense, an "income" of the producer. The controversial character of such an assumption is especially clear if the commodity remains unsold during the given period. Should it be sold, the above items of total costs will be absorbed by another man's purchasing power which can be derived from his income of a previous period. Thus only in principle the total outlay at money costs represented by the social product measurable in money and the total income represented by the sum of individual money incomes cancel out each other since they reflect each other. To be still more exact, the national income conceived as the sum of individual incomes and measured at "factor costs" does not represent only the actual income payments to individuals (minus transfer payments) but also the contributions to social insurance funds, direct or personal taxes and the corporate hoarded net savings, that is, a remainder of income created retained by corporations. This was mentioned by Theodore Morgan and Simon Kuznets. Considering also indirect taxes as done by the U.S. Department of Commerce, the national income will appear not at factor costs but at market prices. Hicks speaks in this case of a "welfare total" as opposed to the "productivity total" which represents the total factor payments. If the state is conceived as a producer of community maturity, also indirect taxes might be treated as

“outlay to a factor”. On the other hand, a cost like amortization can never assume a similar character.

The fact that the net social product reflects such an item as the retained part of corporate surplus revenue and that the gross national income at market prices comprises depreciation and other reserves and adjustments which are not “factor payments” such as reserves for obsolescence of real capital goods, implies that a portion of the social product in the given period can remain unused and thus may provoke disequilibrium between the social output expressible in money and the spent incomes attained in that period which are supposed to purchase this output as a whole in the period. This agrees with Gordon Hayes. However, Hicks comes to the opposite conclusion because he assumes that during the given period any current individual income is entirely spent on buying material consumption goods and services or is in part saved, that is, is directly or indirectly invested. He neglects, however, the fact that a portion of some individual incomes is hoarded or indirectly immobilized (through corporations and banks) at least in that period of time, that is, in the short run, in spite of the fact that according to a theoretical familiar norm, any individual income has to be entirely invested or spent on consumption goods, at least before the period under consideration comes to a close. We may assume that this norm is but an ideal unstable tendency. A detailed discussion of this problem is reserved for another chapter of this book.

Disequilibrium between the social product measurable in money and total spending power (*i.e.*, actualized total purchasing power) is a practical disequilibrium between national real income in terms of money and the corresponding national money income conceived as the sum of individual money incomes in a broader sense, *i.e.*, including for instance amortization. Such disequilibrium often provoked by hoarding has great repercussions because in principle national money income in the above sense assigns to the entire corresponding social product measurable in money and thus ought to absorb it. Yet, in reality, equilibrium between both kinds of national income is an ideal norm which can be attained only under more or less static conditions.

The ambiguous character of the national money income can appear in the two following senses :

1. *As national money income in the narrower or strict sense*, which equals the sum of individual money incomes and thus roughly coincides with the corresponding social product measurable in money. However, we introduce in this case some simplifications, namely : (1) the entire national real income can be expressed in money; (2) It is assumed that the social product is represented by the total surplus product in the broader sense

estimated at non-inflated market values;

2. *National money income in the broader sense* which equals total purchasing power. Since a portion of aggregate purchasing power is usually represented by an injected power derived from credit creation and dishoarding, the national money income in the broader sense normally surpasses the sum of individual money incomes because an injected purchasing power is either no income at all from the strict scientific viewpoint or was an income in a previous period of time. Besides, in real dynamic life, there can be disequilibrium between total purchasing power and the total spending power of the period because a portion of the individual money incomes tends to be immobilized through hoarding so that the entire national money income in the broader sense is not actualized.

This scheme permits us to make some important conclusions :

1. Total purchasing power has a natural tendency to surpass social product measurable in money.

2. If purchasing power is injected in order to pay off some debts, this additional power may eventually be absorbed by the cancellation of debts without affecting total spending power. Usually, however, total spending power will be increased because cancellation of a latent debt will raise the effective purchasing power of the creditor.

3. Social product measurable in money cannot be bigger than national money income in its restricted form but it can surpass the total spending power if some individual incomes are immobilized and no spending power is simultaneously injected.

4. In real life, only social product measurable in money and the national money income in its restricted form, including contributions to the social insurance funds, corporate net savings, etc. are computed.

5. If the national real income were composed in a purely scientific way, it would be larger than the national money income in the strict sense because not every contribution to social product is remunerated in terms of money.

Summarizing, we can develop the two following formulae :

A. *Total purchasing power* (national money income in the broader sense) equals the sum of individual money incomes (national money income in the narrower sense) plus injected or otherwise artificially created purchasing power.

B. *Total spending power* equals the not immobilized portion of individual incomes of the period plus the entire injected purchasing power in the same period provided that it is actualized in toto during that period of time. In addition, the total spending power can be increased by the not exactly "injected" purchasing power as this is the case when the consumer credit permits to buy some durable consumption goods during the given period of time.

If the total spending power exceeds the corresponding social product measurable in money, there will be inflation. This can be provoked in two different ways :

1. Additional spending power can be injected artificially by means of credit creation and dishoarding. This process will enable the beneficiaries, normally entrepreneurs and government, to increase their effective demand without an equal and simultaneous increase in the social product. This implies that at least a portion of the price level will be raised, *i.e.*, some individual prices will be inflated.

2. The amount of spending power, that is, of not immobilized purchasing power, can eventually surpass the social product measurable in money if current production of material goods and services develops at a slower rate than was rationally expected—this happens, for instance, in the case of frequent and prolonged strikes when they are subsidized by labor unions.

If, on the contrary, the social product measurable in money surpasses the actual total spending power, we speak of a deflation instead of saying that national real income is inflated because the overproduction of goods is in this case relative. Such overproduction occurs frequently not because the total purchasing power is too small but rather because this power is not sufficiently actualized as spending power so that there is a discrepancy between social output and individual expenditures. Even an artificial injection of purchasing power will not change the situation if it does not become effective as spending power but is instantly immobilized. Thus, deflation means that the actual spending power is insufficient with regard to the current flow of goods offered for sale.

The older version of the quantitative theory of money which, in the last analysis, correctly assumed that social product measurable in money is confronted with the entire circulating purchasing power, (*i.e.*, has a concrete relationship with the total amount of the means of assignment which are supposed to be in an active circulation) has been refined by von Wieser, Ludwig von Mises and Albert Aftalion who emphasize that the social product is

purchased by the spending power (*i.e.*, by the effective purchasing power) so that not only the quantity and velocity of money influence the relationship between both kinds of national income but also hoarding of any kind which reduces the effective purchasing power expressed in terms of money. Of course, hoarding implies a decreased velocity of money but it is a far deeper phenomenon. Besides, these economists correctly stress the fact that any change in the recipients of the national money income (*i.e.*, in personal distribution) affects the effective demand for goods and thus may cause partial overproduction which will be brought about not by a shortage of money but by an unfavourable distribution of total purchasing power.

Deflation is unpopular because it causes underemployment of quite a few national assets. Since personal services are a distinct constituent of the national real income, their producers can be seriously affected by a change in the size of the total spending power in connection with a change in the system of personal distribution.

The injected purchasing power can act as a stimulant only when it works like a spending power that creates an effective demand just for those goods which suffered most from relative overproduction or when it increases the spending power of those individual economies which are willing to transform an invention into an innovation. Any injection of spending power involves the Keynesian "theory of the multiplier" even if it is usually considered in connection with public works because any artificially caused expenditure not only absorbs a portion of the current social product but may eventually lead to an increase in the national real income in the near future by some multiple of the amount of the original outlay. Yet, the problem of the multiplier is of a major importance only in the case of a depression when total spending power falls short of production.

Immobilization of a portion of the sum of individual incomes typical of the present time does not provoke deflation if it equals the injected part of the total purchasing power because in this case total spending power will just equal social product measurable in money. If, however, such an immobilization in the case of full employment absorbs only a portion of the injected part of the national money income, there will be inflation.

In contradistinction to deflation and inflation, devaluation is originally a purely monetary phenomenon since in principle the actual exchange value of the currency is officially lowered. It does not affect directly, that is, in the short run, the national money income since it only alters the rates of exchange. In the long run, however, the national income will be affected through

some changes in foreign trade as well as for some psychological reasons. If, however, devaluation appears in another form and openly reduces the actual amount of circulating money by introducing a new monetary unit which possesses higher purchasing power because of its scarcity, there will be a definite decrease in the national money income. The most conspicuous result of such a development normally will be a sharp fall in the general price level, not only in a nominal way, so that it usually brings about a redistribution of the national real wealth. If this really occurs, the devaluation introduced as a measure against prevailing inflation may bring about equilibrium between both kinds of national income although only for a short duration.

In real life which is dynamic there normally is a certain, even if at times a skilfully veiled, disequilibrium between the social product measurable in money and the total spending power which actualizes at least a portion of total purchasing power. In general, some purely monetary phenomena may distort the natural functioning of the price mechanism and thus may alter the actual relationship between social product and the total spending power. The aggressiveness of money is so apparent that it cannot be disregarded any longer in conformity with Classical teaching. Only in a stationary economy where money is neutral, no purchasing power is injected or immobilized and every produced good is purchased during the given period of time will there be a permanent equilibrium between both kinds of national income. It is likewise evident that under stationary conditions total purchasing power must be equal to total spending power. Roughly speaking, the national money income in a stationary economy is a mere monetary expression for the constant social product measurable in money. On the other hand, in a dynamic economy, the total spending power is distinctly changeable although also social product may experience an independent change so that in general the ratio of social product measurable in money to total spending power is hardly ever stabilized. Besides, there is normally a distinct difference between both above-discussed kinds of national money income. On the whole, equilibrium between social product and national money income is, under dynamic conditions, a norm which can be hardly attained so that people usually live under moderate inflation or modest deflation.

Any economist assumes that national income is shared through the process of price formation. Yet, there is no unanimity with regard to the relation of social product to price mechanism. In modern economic theory there are three approaches :

1. *Atomistic or descriptive approach*, promoted especially by Peter Struve : this maintains that national real income is a fiction because in real life there is only a continuous stream of

material goods and services. Consequently, one should not assume the existence of a definite social product which is distributed. One may, however, postulate a national income as an analytical device. Such a conceptual income can be fixed by adding together exclusively a posteriori the net outputs of individual economies pertaining to the given period of time. Since each net output can be considered as a bundle of incomes formed by the price fixing process, the price mechanism is prior to the formation of individual incomes on which the imaginary national income is based.

2. *Universalistic or organic approach*, advocated especially by Othmar Spann : this likewise is extreme only in the reverse sense because it assumes that the national real income is almost a perceptible reality which imposes itself upon its recipients and expresses the actual ramifications of the socio-economic whole. The entire distribution is but a result of the fact that any factor of production performs a functional task within the national economy and is rewarded accordingly. Consequently the price system does not determine the share of the factors in the social product, but, on the contrary, the functional importance of the factor (as estimated by the whole) determines its actual remuneration. This proposition of Spann stresses his fundamental standpoint inherited from Aristotle, that the whole dominates its parts.

3. *Neo-Classical or predominant approach* : This recognizes the existence of a divisible national real income and considers it as a conceptual reality. Any producer in the broader sense gets a share in it, not according to the actual objective use value of his functional performance but in conformity with the actual fluctuations of the price level. Consequently, price formation determines any income. This standpoint is in particular advocated by Cassel and Marshall. Also, Rev. Bernard Dempsey, while discussing commutative, (*i.e.*, exchange) justice remarks that a cab driver earns more than a school teacher, not because his service is of a greater intrinsic, that is, functional, worth but because in relation to the need there are fewer persons who wish to drive taxi-cabs.

If we wanted to restate these three approaches from the standpoint of Struve's renown "trio", we could say that social product according to his own approach is rather a "heap" while in the second case it assumes the character of a "unity." Finally, the third approach conceives National income rather as a system of individual incomes.

It is evident that under normal capitalistic conditions, the Neo-Classical approach gives the only realistic solution because national real income which is neither a fiction nor a perceptual reality, is virtually shared through a rather non-functional process of price formation. On the other hand, in the event of a major war or under conditions of a planned economy when the remunera-

tion of a good many producers is determined through direct authoritative action (for instance, through so-called price fixing, including institutionally frozen wages) or by means of veiled discrimination (for instance, priority rights of some producers) one's share in the national income largely depends upon one's functional importance from the standpoint of the self-imposing social whole. In the event of moderate inflation produced by the state or by private credit institutions, there likewise is an artificial distribution of a part of the social product that is imposed from above.

The task of estimating national real income is very complicated. Since the value of the social product equals roughly the sum of individual incomes (provided, of course, that unpaid contributions to it remain neglected), it is possible to compute this income either from the side of output or from the side of individual money incomes. Virtually our formula pertaining to the national real income under dynamic conditions represents the first kind of computation because it applies the so-called "commodity flow procedure", which in practice is based chiefly on the census of production. Two renowned British Statisticians Arthur Bowley and Sir J. Stamp use this method,—namely, they estimate the production of non-agricultural raw materials, the value of agricultural, fishery and forestry output, the net value of services rendered by manufacturing, transportation and commerce. To the total obtained, some additions are made, such as the value of goods imported from abroad, the road passenger services, remunerated personal services and home building. On the other hand, some deductions are made in respect of exports to foreign countries and of the so-called "capital consumption", *i.e.*, of the wear and tear on durable consumption goods and fixed producers' goods. This last item shows that the British Statisticians exclude the reproduction of real capital from the social product since they try to compute it as a net product. For this reason they count also only the net value added by each business, for instance, value of the coal used, is deducted. Besides, it is evident that all the figures given are estimates rather than an actual measurement. Yet, in this way one can approximately appraise the national real income. In any case, such an appraisal is a very useful instrumental device especially when one compares similar estimates for several consecutive years.

Since social product in its incomplete form roughly equals national money income conceived as the sum of individual money incomes, its computation can be made also by using the so called "income payments method." In the United States, both methods give a slightly different result partly on account of some statistical differences. The income payments approach which proceeds either by estimating the different money incomes received by

separate individuals or by appraising the total amount of different types of incomes regardless of the individual, is a less direct method of calculating the social product since this product is of a non-monetary nature. It is evident that such a method is likewise unable to seize every item of social product because some items do not reflect individual money income. Besides, there are still some other complications which represent an interesting theoretical problem, namely :

1. There is always the danger of double counting. Yet, any individual income should be counted provided that it is a remuneration paid for a rendered service. If, for instance, a man earning a net income of \$9,000 a year employs a servant at a wage of \$1,000, both incomes come into consideration as a part of the social product, although the servant's income comes from the same source. These two incomes are added together because any servant is rewarded for a definite personal economic service. If, on the other hand, the employer supports some destitute people who do not render any productive service, the allowances are nothing but sums passed from one hand to another and cannot be considered as a separate item of the national income.

Some cases are controversial. For instance, if a person gives an allowance to his son in college, it is usually assumed that the son's income is but a donation. Yet, a good student participates at least in the reproduction of knowledge and thus may claim to be no less productive than a butler. Professor C.E. Ayres goes so far as to say that in a college town for every person *employed* as a college student, one other is employed in another capacity. Some cases are quite complex. For instance, a businessman who employed a chauffeur, may decide to use a street car. Since the driver loses his job, the social product (not only the joint money revenue of the two men) decreases. A very interesting conclusion can be drawn, namely, it is wrong to say that a rich man is necessarily less useful to the social whole when he employs quite a few servants instead of investing more money. He simply contributes to the production of personal services instead of assisting the production of material goods. In one case, however, the businessman who discharges his chauffeur not only lowers the production of personal services but increases social product as such. This will occur if he spends the money that he used to pay to his chauffeur on commodities that he could not previously afford and which are now produced by the discharged chauffeur, who happened to find employment in making this newly required goods and is receiving exactly his old rate of wages. A superficial calculation might suggest that the social product will be unchanged since the joint income of the two men is the same as before. Yet, in reality, the national real income would be

greater by the amount of the new material goods produced in response to the realized effective demand.

2. It would be unsound to include in the estimate of national income the interest and principle payments on the national debt because these amounts are drawn from the already counted incomes of the tax payers and do not represent a remuneration of some services rendered in the given period of time. Besides, if the payments were considered as a portion of the national income it would mean that the greater the obligations are, the greater would be this income. On the other hand, payments of this kind coming from abroad should be reckoned for they undeniably add to the income of the recipient country, just as if they were proceeds of international trade and investment. And conversely, net payments to foreign countries should be deducted from the gross total. Also, public pensions cannot be included in the national income because their payment comes from the pockets of other people whose incomes have already entered into the calculation and because they are not paid for a service rendered in the current period. In the event however that a recipient of a pension or of an interest payment produces an invention which in the short run will be transformed into an innovation, his income should be considered as a portion of social product because it distinctly provoked an increase of knowledge in the current period.

3. There are some contributions to the national real income which have no place in usual estimates. The best known item of this kind is the services of millions of housewives, which, being freely given, are not included in the calculation. If husbands paid their wives a specific sum per month as if they were hired housekeepers who are remunerated for the work they do in running the household, the national real income actually would not be greater than before but would be better appraised. Also, the services of a businessman who drives his own car come within the same category as the unpaid services of a housewife. Finally the goods which are produced by a farmer for his own consumption and increase the social product usually remain unreckoned. If, however, an account is taken of them, the value usually approximates production costs and not retail prices, thus understating the farmer's total income. Also, undistributed profits of firms have to be reckoned as a part of the current national income. In general the ordinary computation of the national real income is never scientifically correct because it counts too much or too little.

National real income determines the plane of living which tends to move toward the actual ideal norm that is set up as a dynamic standard of living and is closely linked with the idea of

a better *personal distribution*. A new question rises, namely : Can a better formation of individual incomes be achieved as long as social product experiences only a modest increase by falling behind the expected evolutionary process or lags with regard to growth of population. This question was answered by Pareto who developed an "income curve" that has to measure quantitatively the inequality in social distribution which is so much deplored by Keynes and Hobson. Although Pareto's theory appears in a very complex mathematical form, it can be reduced to some literary propositions and thus submitted to a purely logical analysis. Pareto's conclusions derived from his income curve pertaining to a capitalistic national economy can be summed up as follows :

1. The great bulk of incomes are massed together near the lower end of the income scale. For this reason, the logarithmic income curve is assymetrical and has a moderately lopsided appearance. Since, however, the curves plotted for the physical or mental properties of man are symetrical about the mean (as for instance, the famous bi-nominal curve of Karl Gauss), it is evident that the income distribution curve is not entirely determined by man's earning capacities.

2. The income curve reflects the fact that personal distribution is submitted to some institutional factors instead of being shaped by natural phenomena. In the last analysis, most individual incomes are determined, not by capacity alone whether manual or mental but by a combination of capacity and inherited opportunities like private property, family connections, etc.

3. Since personal distribution is in a large measure institutionally shaped, there is a universal tendency to try to reduce inequality by changing the institutions. Yet, the national real income is a restricted remuneration fund which cannot be increased in an arbitrary way, as long as the resources remain relatively scarce. It is practically possible to reduce inequality only by lowering the welfare of quite a few persons. Even under the most favorable conditions, this measure will only slightly raise the average income for a brief duration.

The real improvement of economic conditions of the masses cannot be achieved, according to Pareto, unless the social product constantly grows and its increase considerably surpasses the simultaneous growth of population. Some economists, for instance, C.E. Ayres, expect too much from a direct progressive taxation. Such a measure can eventually and indirectly contribute to the welfare of the masses by raising the aggregate spending power by means of government expenditures to the detriment of private hoarding or by favoring the purely collective mode of satisfying wants; yet, it will be unable to give sufficient comfort to

everybody. This is true even if one agrees with Keynes that the ensuing increase in the aggregate effective demand for consumption goods will raise the social product in the near future. In other words, one can hardly deny Pareto's contention that minimum real incomes cannot be sufficiently raised through a radical institutional interference unless there is simultaneously a great increase in the production of material goods and services. This implies that the problem of personal distribution should be treated by a professional economist in a large measure as an economic problem devoid of any social emotion.

Pareto's income curve as such has only minor importance because it confirms what hardly needs statistical proof, namely, that under normal capitalistic conditions individual incomes are in a large measure institutionally determined. On the other hand, the conclusions which Pareto draws from his curve are of major significance for two reasons :

1. He shows that personal distribution is in part a problem of economic theory because the relationship between national real income and population, *i.e.*, between nature and man, sets a limit to any social reform which would raise the income of the average man. Thus, Pareto refutes the assumption of John S. Mill that personal distribution is a purely social phenomenon which is not affected by the natural laws at all since it has no relation to production of material goods that alone belongs to the realm of nature. According to him, an equality in personal distribution can be achieved only by lowering the actual economic welfare of a large number of persons without a lasting and considerable increase in the average individual income. Such an improvement cannot be lasting unless the social product grows more than the respective population. A mere levelling of individual incomes is rejected by him as an emotional measure which will in the long run affect the formation of the social product in a negative way.

2. Pareto contends that a minor institutional measure, like, for instance, progressive income taxation cannot solve the main problem of personal distribution because it does not affect the fundamental ratio of the growing social product to the growing population.

There can be only three objections to Pareto's theory of income distribution curve :

1. Progressive income taxation may eventually lead to an increase in the spending power of the masses to the detriment of an excessive saving and hoarding which will raise the total spending power and thus may lead, as Keynes assumes, to an increase in the national real income in the near future. Perhaps an exemp-

tion of the lower individual incomes from any direct taxation would be the most effective measure in the above sense. Yet, Pareto still could rightly object that such an eventual increase in social product may be made ineffective by a simultaneous excessive growth of population.

2. Pareto did not stress enough that in the relationship between social product and population the size of a stable population acts as a fixed factor only if the wants of the population are likewise static. In reality any major growth of wants will seriously diminish the relative effectiveness of the social product even if the population were stable. In the case of a theoretical simplification, however, such an objection could be over-ruled.

3. Pareto believed that he succeeded in proving that capitalistic free competition is superior to any other market form as well as to any other organization of economic life. The reason for such a conclusion is the fact that capitalism, according to him, is especially favorable for the development of technological productivity and thus leads to a continuous increase of social product. It is true that capitalism really enormously increased material productive forces and has raised the national real income of capitalistic countries. Yet, this happened, thanks to continuous innovations which reduced costs of production and thus permitted an increase in technological productivity without violating the social limit of profitability. In reality, however, a capitalistic business concern is necessarily controlled by the principle of profitability which may be inimical to an increase in technological productivity. It is likewise true that capitalism tends in its further development to check the growth of population and in this way tends at its more mature stage to make the relationship between population and social product more positive. Yet, such a tendency is not inherent in the capitalistic socio-economic order.

On the other hand, Socialism and Fascism are in principle against profitability and thus implicitly in favor of a rising social product. Yet, this tendency is seriously counterbalanced by their extremely liberal population policy which is caused either by their supposedly defensive militaristic aspirations or by a sympathy with free love, which was advocated by two such different personalities as Lenin and Charles Fourier. Roughly speaking, the relationship between social product and population is not determined necessarily by the socio-economic order, so that Pareto's theory cannot be used for defending or refuting capitalism as such.

Some people believe that it is possible to break the limit set by the social product by injecting purchasing power and thus increasing artificially total spending power. Yet, in a short run,

such a policy can hardly change the situation at all. Besides, in general, it is not the national money income, but the social product which determines the actual plane of living because in the last analysis total purchasing power only assigns to the national real income which has to be shared. The national money income controls social product only inasmuch as its artificial increase can lead to a redistribution of total effective demand actualized by total spending power and thus may raise the volume of production in a long run. The picture changes if one considers the relationship between money income and real income, not of the national economy as a whole but of an individual.

The problem of personal distribution becomes more complex and more important if one considers it from the genetic viewpoint. Today it occupies the centre of the stage. As production and exchange grow, goods pass through more numerous processes and at each stage distinct social groups arise to claim their share of the proceeds.

The real income of an individual has some peculiarities which are normally alien to the national real income, namely :

1. Any normal national economy tends to aim at an equilibrium between its real income measurable in money and money income even if such an equilibrium is hardly ever achieved under dynamic conditions. It would be desirable that the measurable social product be bought really (and not only nominally) by the current national money income in the narrower sense, or in other words, that no part of individual incomes be hoarded. If this happens, the development of the national economy will be quieter. On the other hand, a normal individual does not care for equilibrium between his money income and his measurable real income. He may prefer to store a portion of his present purchasing power. In other words, an individual can be quite prosperous if he does not transmute his entire money income into consumption goods, personal services and productive agents but hoards a latent purchasing power although it is doubtful that he will do this for a long time to the detriment of his current consumption or against his eventual acquisitive mentality. If an individual indirectly invests a portion of his money income, by buying for instance shares of a corporation there is hardly disequilibrium between his real income and money income because in this case he transmutes a portion of his money income into claims which are intermediate goods, "sui generis."

2. An individual normally cares for equilibrium between his real income measurable in money and his corresponding sacrifice, expressed in terms of labor costs in spite of their incommensurability at first glance. Besides, an individual may eventually desire to decrease his current real income if he believes

that the size of this income will provoke envy and retaliation which is typical of a Soviet subject. Also, an ascetic person may have such a tendency. On the other hand, national economy as a whole under all conditions even if not in the same measure, tends to aim at increasing its real income. Moreover, if it decreases production of a good, it does this under conditions of a planned collective economizing, not with regard to the labor costs but rather with regard to the social opportunity costs.

An individual income is such an incoming amount of regular goods and means of assignment that can be used up by the individual in a period of time without decreasing his real wealth. If it flows from a definite source which is regular from the standpoint of the period, it is a genuine income. Every individual constantly transmutes a portion of his current money income into a real income even if he does not realize what he is doing. So, for instance, the process of transmutation takes place when the individual buys a shirt (*i.e.*, acquires a material good) or visits a dentist (*i.e.*, buys a personal service) or pays for a lesson (*i.e.*, acquires a service plus a purely immaterial good). Even when an individual pays tax, he gives a posteriori a portion of his money income in exchange for quite a few different services of which he could acquire only indirectly since they were rendered as means of gratifying exclusively the collective or semi-collective wants. The entire individual real income is not appraised because quite a few increments of it do not incur a money cost. So, for instance, one can consume a glass of water gratis in a cafeteria. A tax pertaining to the use of an automobile tries to seize a portion of the, in principle, unassessable part of the individual's real income.

The distinction between money income and real income does not entirely clarify the concept of individual income because it can be viewed from different angles. One can develop the following behavior analysis of individual income :

1. Objective income or a revenue derived from a productive source versus a subjective income or an aggregate net income of a rather personal character.
2. Original income versus derived income.
3. Funded income versus fluid income.
4. Empirical income versus psychic income.

The subjective, yet not psychic income of an individual usually defined as his aggregate net income is derived in a period from some fixed sources of revenue and represents an increase in his initial assets. Such a definition of an individual's income is given by Adolph Wagner and Gustav Schmoller.

Any individual can have only one income in this narrow sense but can get a good many revenues which flow from different productive sources and constitute his aggregate subjective income. Virtually any kind of production in the broader sense, even rendering personal services, yields a revenue which is usually considered as an objective income because such an income in most cases is a non-personal and is obtained in cooperation with several persons. Even when a revenue, like wages or a fee, is closely linked with the individual, it remains objective because it is derived from labor, *i.e.*, from a definite productive source which enjoys personification. Any modern system of taxation makes a distinction between different revenues flowing from various productive sources and liable to separate corresponding direct taxes and a general income tax which tries to assess man's aggregate net income while taking into account his personal conditions, in particular his family status.

Since any individual genuine money income flows from a fixed source, it should not be confused with an irregular receipt, like a gift, inheritance or with a mere increase in the objective exchange value of a durable good, *i.e.*, with appreciation; both of these increments affecting individual's real wealth can be an "income" only in a broad sense and should be liable to some specific direct taxes. The latter case, however, is controversial; Professor Logan would not have accepted our standpoint. It is, however, evident that a non-realized, *i.e.*, a not used, appreciation of a material durable good, mostly represents a potential windfall gain, since it can, at any time, undergo a sudden change. Should such an appreciation materialize, it will be an accidental gain, but not a genuine income which has to flow from a steady source. Furthermore, it should be noted that not every receipt is a net revenue or a portion of the man's income because a good many receipts are transmuted into expenses and thus do not represent an increase in the initial stock of wealth.

Any income is original if it is derived from the production of material goods and services. Only some incomes of productive nature are eventually considered as derived when they are received as a reward for a strictly personal service, like, for instance, the income of a butler or for an intangible service, like, for instance, a student's allowance. Yet, in principle, it is antiquated to assume that any individual rendering a personal or intangible service gets a "transfer income" (to use John Due's term). In the last analysis, there are only a few really derived incomes which, like the incomes of a professional beggar or an independent gangster are not based on an objective revenue since they are entirely unilateral and sterile. Any income which is derived from owning something is a funded income because it is normally more secure. On the other hand, any income derived from doing something,

like for instance, wages, is in principle an uncertain income and is in a large measure unfree or bound because only a comparatively small portion of it can be saved or hoarded.

Any of the above discussed kinds of individual income is of an empirical nature. There is, however, still a psychic income which occupies a very important place in the general theory of value and is even a fundamental phenomenon when considered in connection with a hedonistic balance sheet that roughly measures man's economic welfare. Such an income means ultimately a psychic net revenue or an excess of satisfaction over corresponding effort or pain. In American economic literature, the concept of psychic income is used sometimes by Irving Fisher, Lewis Haney and Frank Fetter, although they are, in principle, against hedonism.

The concept of psychic income may be applied in another restricted sense by indentifying it with the pleasure which is derived by an individual from the increment of his money income flow. Such an approach is typical of Marshall and von Wieser. We know already that the subjective exchange value of money decreases when the money income of the respective individual increases. In spite of such a development, the total utility of a growing individual money income normally increases because the individual becomes able to develop his subjective scale of preferences on a higher level. On the other hand, the last increment of this growing income conceived as increasing spending power gets a less subjective exchange value and thus somewhat depreciates. When an individual cares a great deal for saving as investment and for hoarding, he usually violates this norm because in such a case the last increment of his money income becomes subject to the law of increasing marginal utility. Yet, some day this norm will become valid again because the individual will trespass the point of the respective psychic saturation unless, of course, he develops into an enthusiastic collector of hoards, that is, of a potential spending power. Also two individuals who possess different degrees of sensitivity can derive unequal pleasure from the same money income even if the money as such ought to have the same subjective exchange value, that is, if they get an equal money income in the period and own an equal real wealth. Yet, such a case, which is mentioned in particular by Marshall has not a great significance from the standpoint of economic theory because it implies that one of the individuals is not acting as a rational economic subject. When both of them act as pure economic men, they cannot disregard the fact that the last increment of their money income is in principle liable to the law of diminishing marginal utility. This especially is true when they are consumers.

CHAPTER XIV

LABOR AND WAGES

Wages are the functional share of the divisible social product which manual workers, salaried employees and professional men receive in return for their personal productive services, defined as labor.

Labor is the most original primary factor of production and represents a distinct logical category. Any natural resource is dormant as long as labor does not awaken it ; any stock of material goods is but dead inventory unless labor actuates it. Here labor follows the instructions of the "temporal prime mover" represented by a network of subjective valuations. Yet no valuation will be carried out and no economic act will occur without labor costs. Even valuation itself can be considered a type of "laboring" since it is a mental exertion.

From a genetic viewpoint, awakened natural resources and man-made real capital goods are materialized and stored labor of the past. Schumpeter says that one can resolve all goods into labor and land in the sense that one can conceive all goods as bundles of services of labor and land. The same opinion is advocated by Cassel who asserts that by investigating the technological origin of each material good used in production, it is possible to reduce every product to the primary factors of labor and raw materials which are freely offered by nature. Schumpeter's contention shows that one can use the term labor in two different senses. This is still more conspicuous if one considers the works of Richard Ely.

Ely includes in one case under the heading labor all the various kinds of personal services for which wages are paid. In another case, he maintains that wages constitute a reward paid to labor. Consequently, labor sometimes appears as a bearer of human services and at other times is identified with them. Such dualism is unavoidable ; yet it should be made less confusing. Labor, in principle, represents a service rendered by a human being, in contradistinction to that rendered by non-human beings and by durable material goods. Any isolated sporadic human service is labor. Yet labor should be considered also as a fixed source of recurrent services which is personified and thus appears as a bearer of salable services. On the other hand, man in our time is not labor but only a bearer of labor since he is a free worker who never sells or leases himself but sells his services and

leases his fixed source of future services under stipulated terms. Since man's labor is personified the fact that he sells or leases his services does not debase his personality. Only a slave is sold personally as fixed source of services. A free worker never is an economic good but sells his personal services as economic goods. Therefore, in the case of a free human being distinction between a bearer of services and services themselves is more obvious than in the case of a durable material good which is far more absorbed by its services. Labor is actualized by working, that is by making a physical or mental exertion which is rewarded by another person.

This approach to the concept of labor implies that rendering human services is an economic priced activity when labor is treated as an economic good and as a distinct means. Spann's assertion that exclusively passive labor is an economic good is acceptable only inasmuch as labor of this kind can hardly be an end in itself. On the other hand, even a creative mental exertion can appear as labor sold like an economic good as in the case of a gifted inventor who is employed by a firm to do research which does not interest him personally.

Sometimes, however, labor is not economic activity. For instance, painful and regular services rendered to a spiritual leader by his devotees without remuneration and without any expectation of increasing prestige represents a peculiar non-economic labor. In such a case, labor absorbs its bearer to such an extent that no distinction between them is possible. Yet any exertion which is an end in itself stands outside economic life just as final consumption which is conceived as a process of living. The term "labor" should rather imply a painful exertion which serves as a means and is priced. Labor is more persistent than the services obtained from durable material goods because no working individual can become entirely obsolete as long as he is able to work, while a material good can be outmoded or institutionally depleted. Labor possesses not only longevity but also comparatively high mobility. So a piece of land, although a long lived factor, cannot be shifted to another use as easily as a normal human effort can.

Since labor involves an exertion of body or mind, it can be considered from the standpoint of the bearer as an effort which bears disutility. Jevons stresses that under normal conditions any prolongation of work makes the effort more painful and finally will lead to the point where the pleasure gained (usually in terms of money income) is outweighed by the pain endured. Marshall points out that wages represent the pure prime costs if they are received by essential workers because they must be covered by the price of the product even in the short run. Only

the salaries of non-essential employees should be classed among supplementary costs which can be neglected or deferred in payment when production is slack. In other words, a certain amount of labor is just as indispensable for the production of any material good as a minimum amount of natural resources, in particular raw materials.

Labor as a personified source of services is the only factor of production which produces immaterial wealth. Therefore, labor is superior to any other productive agent and represents the only original creative productive force. Of course, a material productive agent can act as a tremendous productive force : yet such power is derived from an original creative device invented by man. Even an automaton cannot run unless it is introduced by human mental effort. For this reason, labor has the most honorable place among the primary factors of production. From the standpoint of the Russian philosopher, Nicholas Berdyaev, even freedom is useless unless it enables the development of creative labor and thus increases the stock of immaterial goods. By creative exertion, man partakes indivinity. In a somewhat less elevated but a rather pragmatic way, the fundamental importance of the "inventive-creative" urge is stressed by Professor D. McCord Wright.

There are three distinct principal kinds of labor which cannot be remunerated in the same manner. Therefore, there are three forms of wages :

(1) Wages in the narrower sense, including some salaries, which represent a contractual sum received by a worker who renders an indirect service to his employer. The labor of such a worker acts as any other productive agent and is subject to derived demand. The employer in this case is a capitalist who pays the wages out of capital and not out of his income. Therefore, Adam Smith considered the respective labor as productive.

(2) Wages, salaries or fees received by a servant, by a professional man such as a teacher or lawyer, or by a particular kind of employee, such as a personal secretary. Any remuneration of this kind pertains to a bearer of labor who renders a direct personal service and whose effort is subject to original demand. The employer is a consumer of personal services and pays the wages out of his income.

(3) Wages of management or remuneration for services of employee who administers a business concern. Frequently such remuneration is received by a managing owner or co-owner of a firm who gets a stipulated, contractual remuneration in addition to whatever returns he may receive as part-owner of the firm.

Wages and fees which represent a remuneration for direct and personal services rendered to a definite employer or often to some eventual customers are not determined in the same way as the wages in the narrower sense. The remuneration paid as price for a direct or personal service is subject to the following characteristics :

1. The wage of any person who renders a direct service, such as a servant or physician, is paid for labor which is subject to a direct demand. Consequently, it is determined normally by the marginal utility of the given kind of labor for the marginal employer (typical of a servant's wage) or for the marginal customer (typical of a physician's fee). Any marginal utility which comes into consideration here is determined by the supply of the given kind of labor and by the subjective valuation of the individual who represents the marginal bearer of the respective effective demand.

2. In real life remuneration paid for personal service often deviates from the above-mentioned norms. There are at least two reasons for such a development :

- (a) The principle of discrimination (a monopolistic phenomenon) is frequently applied by both sides. Thus many physicians and some lawyers charge their customers according to their paying ability. Quite a few bearers of personal services, such as scholars, surgeons, and actors, are unique and fix a monopolistic price for their labor. On the other hand, many rich employers who enjoy "conspicuous consumption," disregard the wages paid by the marginal employer. So a servant who is lucky enough to be employed by a rich household does not compete with another worker of the same kind as long as he is retained by his superior employer. The same question of prestige comes into consideration in the colonies where a distinguished white official is expected to employ many servants and to offer them a higher wage than his native neighbors.

- (b) In contradistinction to a businessman who often lowers the price of his commodities when he is unable to sell them at their actual exchange value, a professional man who cannot get what he considers a proper remuneration may prefer to remain idle for a while rather than to accept work at a lower price and thus to hurt his reputation. On the other hand, there is a less tendency for the buyers of direct personal services to bargain with the seller. If one thinks that a physician's fees are too high, he usually goes to another whose rates are lower. Such action is eased by the fact that the law of indifference, or the principle of uniform price, does not strictly pertain to the sale of direct services. It hardly seems possible that, dentists, for instance, will begin to bargain collectively with their clients through a specific professional

organization. Yet something like that may occur in the future. The American barbers are already organized.

In general, the supply of and demand for direct services as well as their remuneration show a high degree of irregularity. So, for instance, the demand for servant's services is rather elastic; yet, the wages of domestic servants are not always lowered in conformity with the strict application of the principle of scarcity because it is difficult to neglect some ethical principles, which are necessarily involved in such a case. From the standpoint of the national economy as a whole price discrimination is a method for a better distribution of real income, provided that the "class price" is charged by physicians for instance according to one's ability to pay. An analysis of the wages of management may be summarized in the following propositions :

1. The wages of management in the narrower sense represent a contractual wage which is received either by a hired manager or by a part-owner of the firm who acts as a real entrepreneur since he combines management with personal risk taking. The wage of management in the broader sense represents a portion of the objectively normal net revenue of a self-employed entrepreneur and thus is hardly contractual.

2. Wages of management in the narrower sense normally are determined in the following manner :

(a) Their upper limit is set by the subjective value in use of the services of the manager from the standpoint of the employer and thus depends upon the scarcity of the given skill and upon the manager's personal business connections and personal qualifications which can be of value to the firm.

(b) Their lower limit is determined by the objectively normal opportunity (transference) costs of the manager. In other words, it is fixed by the remuneration which the manager could get somewhere else at any time. If he obtains more from his employer, he gets a differential rent.

3. From a theoretical standpoint, wages of management in the broader sense are determined by objectively normal opportunity costs. Any self-employed entrepreneur who does not cover them owns a submarginal firm. From a practical viewpoint, however, a weak entrepreneur may cover them in the long run because in real life the wages of management often are treated as supplementary costs in the Marshallian sense. Still, a marginal self-employed entrepreneur is supposed to get objectively normal opportunity costs. Theoretically even a super-marginal entrepreneur is not expected to care for his subjectively normal opportunity costs at which he should aim if he believes he has some superior capacities.

The wages of management in the narrower sense frequently are determined without any regard for the law of indifference because quite a few hired managers are unique and can easily leave the ranks of the employee class unless their material requirements are fully gratified.

A large firm pays quite a few wages of management in the narrower sense because the head of any department may be a hired manager without being a stockholder of the corporation. Such a firm has at least one skilled operating executive who is in charge of technical production and one finance executive who cares for the profitability of each business transaction. Here we see the presence of a productive unit versus a financial unit.

5. In real life, a self-employed entrepreneur may get a lower wage of management than the actual objectively normal opportunity costs or none at all if he is moved by some non-economic motive. For instance, he can be willing to disregard opportunity costs if he manages an inherited business or does not want to leave town or wants to be independent. In all such cases, he owns a submarginal firm.

6. There is an important distinction between the earnings of a self-employed entrepreneur and those of a hired manager. When the latter is employed as a business executive, the owner of the firm agrees to pay a stipulated remuneration for a certain length of time regardless of the success or lack of success of his actual management. Consequently, a hired manager does not bear the business risk unless he happens to be a stockholder of the corporation or a partner of the individual employer. Therefore, not every manager is a genuine entrepreneur. This is true even of a manager who gets a stipulated portion of the profits as a bonus, provided that he receives simultaneously a contractual wage of management.

The most important and complex kind of remuneration paid for human services is represented by wages in the narrower sense (including quite a few salaries) which are received by workers who render an indirect impersonal service not only to the customers of the firm but also to their direct employers. Since the labor of such workers is subject to derived demand and is a distinct productive agent demanded along with other complementary factors of production, to make a common product, its accomplishment cannot be so easily discerned as, for instance, the performance of a self-employed mechanic who renders a personal direct service to a customer by repairing his car on the road.

In the case of an indirect productive service, the principle of marginal utility cannot be applied to the pricing of labor in the customary sense ; however, it appears in a new form as a principle of marginal productivity which takes into account the

fact that impersonal labor, as any other productive agent, possesses only indirect desirability, since in this case any service is a pure means from the standpoint of the individual who acquires it. Consequently, it can be priced only in accordance with its contribution to the process of production. However, the buyer who is an employer estimates the utility (or usefulness) of the acquired service in relation to its scarcity. Since the marginal service in such a case is indirect, it is not literally consumed but rather used. Thus, the subjective value in use of a service of this kind can be expressed only in terms of the effectiveness or productivity of its marginal unit. This implies that the theory of marginal productivity is not divorced from the general theory of value.

The principle of marginal productivity concerns almost exclusively labor engaged in the production of material goods. Only under exceptional conditions can the production of immaterial goods, for instance, teaching, be treated as a process of rendering indirect services and thus made subject to this principle. Such a degradation of teaching occurs when a school is completely commercialized ; no creative work counts, and all the teachers become interchangeable. The teachers, however, should not bring about the mechanisation and standardization of their activities.

The principle of marginal productivity was discovered by von Thunen and made popular by J.B. Clark. This principle taken in its pure form and applied to labor represents a norm or a normal tendency from which the pricing of indirect services may eventually deviate in real life since there are so many dynamic frictions and elements of monopoly. However, they usually only obscure the normal application of this principle.

When a wage is determined in conformity with the marginal productivity approach, it should be defined as an equilibrium wage or as a "normal wage." The real pricing of indirect services, in particular of manual factory labor, is subject to this principle. This is evident in a national economy that is devoid of hegemony of employers or workers. The principle of marginal productivity is applied without any obscurity when there is perfect competition among wage earners and their employers. This implies that there is complete mobility of labor and capital, that both of them are fully employed, that the bargaining power of labor is equal to that of the entrepreneurs, and that the state abstains from influencing the wage structure. Many authoritative exponents of the theory of marginal productivity, such as von Thunen, J.B. Clark, Henry Moore and Paul Douglas, assume that this theory in its pure form is applicable to wages only under static conditions. However, it might be valid in its pure form in a dynamic economy also, even if there are some institutional obstructions.

The principle of marginal productivity is caused by the fact of diminishing returns. It is evident that if the amount of one primary factor of production is increased while the quantity of any major complementary factor remains constant, the continuous increase of the total product (*i.e.* output) will soon develop at a decreasing return. As soon as the aggregate product begins to grow by an amount less than that added to it by the last previous additional unit of the variable factor (*i.e.*, as soon as the marginal product begins to decline), the *point of diminishing productivity will be reached*. This does not imply, however, that there will be no further attempt to increase the quantity of the respective variable agent. On the contrary, the producer will continue to employ some new additional units of this factor until the additional product value, resulting from the presence of the last added unit, just equals what he has to pay for hiring that unit. In other words, when this second limit defined as the *point of saturation* in respect to the variable factor (here labor) is reached, the marginal unit of the variable agent will just pay for itself. Consequently, the amount of labor will be increased by the employer only as long as the marginal "labor costs" caused by the last added worker, do not surpass the marginal gross revenue from labor, that is, the additional revenue resulting from the presence of the marginal worker. Here the term labor cost is applied in a different sense than that in which it is normally used in economic theory, since in principle labor costs pertain to the effort made in terms of conventional labor hours. When the marginal gross revenue per worker equals the marginal costs connected with the input of labor and thus, under pure competition, also the sales price of the marginal product, the employer has no incentive to hire additional workers because the point of saturation for labor is already reached, and the wage is established as a normal or equilibrium wage. He may, however, try to pay a lower wage : should he be successful in pushing the wage below its actual norm, additional workers will be employed as long as he succeeds in keeping the enforced market wage under its normal size. A prerequisite here, however, is an extreme relative bargaining power of the employer.

The principle of marginal productivity implies that a one-sided and continuous increase of labor as a factor of production used with other complementary productive agents will seriously lower its marginal productivity or the productive contribution of its marginal unit. The concept of the marginal worker is somewhat controversial. Such a worker possesses the following distinguishing traits when he is employed by a business concern :

1. He is the least efficient worker because he is the last added and thus lowers the physical marginal productivity as well

as the marginal value productivity of that particular kind of labor (or skill), provided, that all complementary factors remain unchanged. Consequently, his deficient effectiveness should not be taken literally; he is assumed to be an average worker who is interchangeable and "marginal" only because he happens to be the last hired laborer. Remember that also in the case of a final consumption good, composed of interchangeable units, any unit that is assumed to be the last added unit can be considered as the marginal. It is evident that the last added worker changes the relative scarcity of labor. Not every successive marginal worker is, however, "normal."

2. The normal marginal worker just covers his wage, *i.e.*, does not bring either gain or loss to the firm. Such a marginal worker represents a norm which is realized when the point of saturation for labor is attained. Any marginal worker who is not "normal" brings a gain to his employer but not for a long period of time because he ceases to be marginal as soon as an additional worker is hired. This must happen since, under the assumed conditions, his employer will have a motive to increase the amount of employed labor. Theoretically, no marginal worker can bring a loss for a long time either. Yet, in reality, the marginal worker sometimes can bring a loss to his employer during a certain period for an institutional reason which we shall discuss in another context. There is a strong tendency to observe the norm that the marginal worker should be the "normal marginal" labor force, especially under more or less static conditions. In such a case, marginal labor costs will equal marginal gross revenue from labor.

3. Some economists, such as Albert Meyers, understand by the normal marginal worker not the last added laborer but the worker who still could be added to the number of the bearers of labor. This contention creates an unnecessary complication and might be true only under the static assumption made by Paul Douglas that the employers are able to estimate in advance the increase in production which will accompany the application of a further unit of labor. In real dynamic economic life, one can fix the contribution of the successive marginal worker practically only a posteriori. If, however, we assume static conditions under which there is no necessity to make guesses about the normal marginal worker since the point of saturation is known, one may eventually talk about a "prospective" marginal worker, although it is logical to assume that he will be immediately hired so that there will be no chance of treating the normal marginal worker as prospective.

As already mentioned, any worker employed by the firm (except the normal marginal labor force) brings a certain marginal

net revenue or "vertical rent" to his employer which is conspicuous when the worker acts on the margin as the last added labor force. This revenue gradually decreases and becomes negative as soon as the employer transgresses the point of saturation for labor because it appears only as long as the marginal gross revenue per worker surpasses the marginal labor costs. If in real life the hiring of additional workers necessitates an additional expenditure on materials, this cost must be deducted from the simultaneous increase in gross revenue. Under purely competitive conditions, when the individual firm can have no effect upon the price of labor (wages) and the price of its product, it is a comparatively easy task to fix the point of saturation for labor because the average wage, *i.e.*, the actual market wage is given as constant and equals the stable marginal labor costs. Besides, the marginal gross revenue per worker is easily found by multiplying the stable price per unit of product by the decreasing marginal product. The following numerical example illustrates this development :

Both markets purely competitive

Input of Labor of (units)	Actual Market Wage \$	Total Wage \$	Marg. Labor Costs \$	Output (units)	Marg. Product (units)	Price per unit \$	Gross Labor Rev. \$	Marg. Gross Rev. per wkr. \$	Marg. Net Rev. \$
9	5	45	—	62	—	1.30	80.60	—	—
10	5	50	5	70	8	1.30	91.00	10.40	5.40
11	5	55	5	77	7	1.30	100.10	9.10	4.10
12	5	60	5	83	6	1.30	107.90	7.80	2.80
13	5	65	5	88	5	1.30	114.40	6.50	1.50
14	5	70	5	92	4	1.30	119.60	5.20	0.20
15	5	75	5	95	3	1.30	123.50	3.90	-1.10
(wage dictated by the market)				(expresses physical marg. productivity)			(expresses marg. value producti- vity)		

Under pure competition, the marginal net revenue from labor can be determined in the following two ways, namely :

1. Marginal gross revenue per worker, *i.e.*, the price of the marginal product *minus* marginal labor costs.
2. Marginal gross revenue from labor *minus* actual market wage. This can be done because the wage equals marginal labor costs.

The point of saturation for labor represents the "optimum point of input" because at this point marginal labor costs equal marginal gross revenue per worker and coincide with the actual market wage. In reality an employer often stops hiring additional

labor shortly before this point is reached because the normal marginal worker often is not literally "normal." As any other worker he acts in cooperation with a lot of complementary factors.

There is another peculiar development if the employer is a monopsonist in respect to labor, as for instance, an owner of a pulp mill or a sugar beet factory situated in an isolated locality. In this case, his effective demand for labor directly affects wages. Should he be simultaneously a monopolist, the amount of his output will have a bearing upon the market price of the product. In this latter case, two forces will tend to restrict the quantity of labor hired, namely: rising wages and the falling price of the monopolized product. In other words, such a non-competitive producer must be concerned with both elasticities—that of the labor and that of the demand for the product. If, for instance, the demand for his product is inelastic, he as a monopolist, will tend to decrease his demand for labor for the following reasons:

1. He will be tempted to make his product more expensive and since the price usually has a degree of rigidity, we may assume that it will increase less than decrease in output. Consequently, the marginal gross revenue from labor will fall while the marginal labor costs remain the same. This will decrease the marginal net revenue derived from labor.

2. Unskilled labor is a highly complementary factor and demand for it necessarily decreases when the output diminishes.

If the supply of labor is inelastic, the employer monopsonist will tend to employ as little of it as possible, otherwise wages and the marginal labor costs will rise too much. If both the demand for the product and the supply of labor are elastic, the non-competitive employer will increase production and employ a great deal of labor. This case, however, is under present conditions not very probable. The reasons for such a conclusion are the unionization of labor and a sufficient development of substitutive goods.

Under conditions of unfree competition, the market wage is less than marginal labor costs, i. e., does not equal them as under pure competition, because the employer's demand for labor gradually raises the actual wage and marginal labor costs rise simultaneously in a still greater measure. When there is an unfree competition in either market, the employer who is simultaneously a monopsonist and a monopolist avoids hiring much labor because rising marginal labor costs are confronted by declining marginal gross revenue per worker caused by a gradual decrease of the price per unit of the product. For this reason, the point of saturation for labor which determines when the employer stops hiring labor is reached much later (at least normally) when this employer is unable to affect directly wages and the

price of his product. Thus, under pure competition, an employer tends to hire more labor at a lower average wage.

The formation of wages under a completely unfree competition can be illustrated as follows:

Unfree Competition in Both Markets

Input of Labor (units)	Actual Mkt. Wage \$	Total Wage \$	Marg. Labor Costs \$	Output (units)	Marg. Prod. (units)	Price per unit \$	Gross Labor Rev. \$	Marg. Gross Rev. per wkr. \$	Marg. net rev. per wkr. \$
9	5.00	45.00	—	62	—	1.30	80.60	—	—
10	5.20	52.00	7.00	70	8	1.26	88.20	7.60	0.60
11	5.40	59.00	7.40	77	7	1.22	93.94	5.74	-1.66
12	5.60	67.20	7.80	83	6	1.18	97.94	4.00	-3.80
13	5.80	75.40	8.20	88	5	1.14	100.32	2.38	-5.82
14	6.00	84.00	8.60	92	4	1.10	101.20	0.88	-7.80
(employer influences the wage as a monopsonist)				(sales schedule of the monopolist)					

This numerical example shows that when there is an unfree competition in both markets, *i. e.*, in the market of labor and on the market of the respective material good, the principle of marginal productivity remains valid even in its pure form, provided that the employer is not powerful to such an extent that he can freeze artificially the market wage below the genuine normal wage. Yet, even in such a case, the principle of marginal productivity only lacks its normal development and thus may be said to have lost its pure form. This case can be illustrated as follows:

Input of Labor (no. workers)	Artificially frozen Market wage that equals Mrg. Labor costs \$	Total Wage \$	Marg. Gross Rev. per Worker \$	Marginal net Revenue from Labor \$
9	3	27	—	—
10	3	30	7.60	4.60
11	3	33	5.74	2.74
12	3	36	4.00	1.00
13	3	39	2.38	-0.62
14	3	42	0.88	-2.12

Under the above conditions, a non-competitive employer will hire 12 workers instead of ten as in the previous example ; or under free competition the employer will hire 14, but the marginal worker in our present case will have a far less degree of 'normality'

so that his wage can become 'normal' only in an artificial way and thus will not be a genuine normal wage. The employer here also observes the optimum point of input of labor even if it is unequivocally fixed by him. On the whole, the principle of marginal productivity is applied to wage formation in any market structure, although the development of each is not quite identical.

Under pure competition, where the sales price of the normal marginal product, (that is, the marginal product multiplied by the price per unit at the optimum point of input) equals the actual market wage, a decrease in the physical marginal productivity is very conspicuous because the normal marginal product of labor expressed in terms of physical units is lowered.

On the other hand, under unfree competition when such competition is present in both markets, the sales value of the 'normal' marginal product is much higher than the actual market wage. Yet, also here there is a decrease in the physical marginal product of labor although a simultaneous decrease in labor's marginal value productivity caused by a gradual fall in the market price of the product linked with a gradual increase in the actual wage is rather more conspicuous.

Chamberlin says that under unfree competition, the principle of marginal productivity is changed, especially with regard to the physical product. We cannot share this opinion. The principle of marginal productivity in respect to wages (in the narrow sense) has a regular and distinct validity, not only under pure competition but also in the case of unfree competition in the labor market although it is somewhat mitigated and obscured in the event of leadership of the employers or workers because its normal development becomes institutionally obstructed. Nevertheless, also here the principle as such keeps its full validity. Only the wage actually paid in this case will not be a genuine normal wage which would be paid if there were no such leadership.

Summarizing, we can say that the normal wage is genuine if it is formed by a spontaneous development of the principle of marginal productivity which can be the case also under unfree competition. There will be, however, an artificial normal wage if the normal development of this principle is institutionally mitigated.

The frequently expressed idea that the principle of marginal productivity, as applied to labor, becomes invalid in a dynamic economy under unfree competition is based on the false assumption that this principle is identical with the theory of the specific product of labor. It is certainly true that under unfree competition the normal wage is smaller than the sales price of the normal marginal product. This fact concerns, however, the ethical problem of the 'just wage' but not the theory of marginal producti-

vity which can be reduced to the sole proposition that a normal capitalistic employer who cares exclusively for the profitability of his economic actions continues under all conditions (*i. e.*, in any market form) to hire additional workers until the last added worker ceases to bring him a positive marginal net revenue from labor.

Since any individual business concern, under pure competition, tends to pay for the services of each primary factor of production, a price which equalizes their marginal net revenues, while taking into account the prices of their marginal products, the application of the principle of marginal productivity necessarily involves the process of substitution. Since, in principle, any purely competitive firm tends to employ all primary factors in such a way that it everywhere achieves the 'normal marginal' net revenue which equals zero, the remunerations paid to the factors are equal and thus proportional to the prices of their marginal products. Otherwise, each firm tends under purely dynamic conditions to remunerate the complementary primary factors of production in such a way that the ratio of their remunerations equals the ratio of their gross marginal revenues (*i. e.*, under pure competition, of the sales prices of their marginal products) minus the corresponding marginal net revenues. We can illustrate this proposition as follows:

	Uniform Remuneration per unit \$	Gross Marg. Rev. from the given factor of prod. or the price of its marg. prod. \$	Marg. Net Revenue \$
Labor	6	8	2
Capital	10	12 (marginal value productivity)	2

This example proves our contention, namely : $\frac{6}{10} = \frac{8-2}{12-2}$

The idea that remuneration of two factors under all conditions must be literally proportionate to their marginal value productivity is based on an incorrect application of the famous law pertaining to marginal utility which holds that an individual tends to spend a certain amount of money in such a way that the marginal expenditure made in each direction brings the same satisfaction. So, it is assumed that a factory spending on labor and capital will try to acquire with the marginal dollar in each case the same revenue. Such a situation seems to be given if we take in our example the ratio $\frac{8}{6} : \frac{12}{9} \left(\frac{4}{3} : \frac{4}{3} \right)$. Yet, in reality a factory tends to equalize marginal net revenues which in this equation would be unequal but does not care for

the marginal gross revenue as such. Henry Moore contends that even under socialistic conditions, it will be necessary to allocate the factors of production in such a way that the marginal unit of each factor gives the same satisfaction. This could be interpreted in terms of their respective above mentioned "marginal lucrativeness." It is evident that this principle is valid under any capitalistic market form even if under pure competition its application is especially clear.

The principle of substitution has the following implications:

1. Any major substitution is partial because no primary factor of production can entirely displace another one, at least under normal conditions. Only a secondary factor, like copper, could be eventually a 'perfect substitute' for another metal. It is necessary to take into account the fact that there is always 'elasticity of substitution' which is infinite only when both factors are perfect substitutes as Hicks and John Due rightly maintain. Otherwise ~~the~~ process of substitution will be more complex. So, for instance, if the amount of primary factor A increases and its marginal productivity declines, the marginal productivity of B which we assume to be highly co-operant will rise. Should the supply of B be elastic, (which would be the normal case) this good will be substituted for A without a rapid decline in the marginal rate of substitution. Even in such a case there will be gradually a favorable effect upon the marginal productivity of A because now the services of B will be required in a larger quantity and thus will depreciate. This implies that since labor is used in combination with some complementary productive agents, its marginal productivity does not entirely depend upon its own supply, but also on the supply of the factors with which it is combined. Any change in this latter supply will affect the marginal productivity of labor unless a simultaneous change in technical devices checks this tendency. So, for instance, real capital goods which cooperate with labor become scarce and should lower the marginal productivity of labor but fail to do this on account of an increase in their own efficiency. Here a change in quality leads to a change in quantity. This proves that in real life Hegelian principle of dialectics which says that a change in quantity alters quality of the given phenomenon is applied sometimes in the reverse sense. Thus, it is evident that the demand for labor in a large measure is dependent upon the availability of the major complementary factors. Summarizing, we can say that the process of substitution is usually partial for the following reasons:

1. (a) Primary factors of production are highly complementary even if they are in principle of a substitutive nature.

- (b) Substitution is affected by the fact that often the marginal rate of substitution of an important substitutive factor

risers rapidly as substitution is continued and thus counterbalances the decline in the marginal productivity of the given factor.

2. If an entrepreneur has for some reason a fixed amount of labor, as, for instance, a farmer with a good many sons whom he wants to employ on his farm, he will be obliged to raise the deficient margin productivity of this labor by acquiring some new units of complementary productive agents, *i. e.*, by mechanizing his farm. If an employer does not want to discharge workers whose marginal productivity at the given rate of wages is low and cannot decrease their remuneration, he must increase the quantity of the employed non-human factors of production. It happens, however, sometimes that an old plant is so organized that the additional factors can be accommodated only within narrow limits. In such a case, a new factory with a better combination of factors will destroy it in the long run unless the old factory discharges a part of its labor. Under dynamic conditions the relationship between complementary primary factors is determined in principle by their comparative marginal lucrativeness which regulates their prices. Yet, in reality there is sometimes a deviation from this norm because some technical coefficients are inflexible and cannot be quickly changed even if otherwise it should be desirable to substitute one factor for another. It is evident that under such conditions, the effective demand on behalf of the customers will have to bear a higher price for the product because the substitution which could not take place would have cheapened it.

3. Substitution is made complex by the fact that the marginal productivity of each factor is contradictory in its essence. We can describe the dialectical nature of wage formation under pure competition as follows:

(a) The sales price of the product produced by the normal marginal worker (*i. e.*, 'the specific product' of labor) in principle determines the actual normal wage. Yet, the current market wage which coincides with marginal labor costs co-determines who will be the normal marginal worker under given conditions. Thus, one wage determines another wage. In other words, there is a strict interaction of the actual market wage and the genuine normal wage.

(b) Consequently, substitution with respect to labor, does not depend only upon a change in the physical marginal productivity of labor or upon the price per unit of product which will rise if the effective demand increases, but also upon the fluctuations of the going uniform market wage which can be lowered for instance by an increase in immigration or on the contrary raised by minimum wage legislation.

This complex case shows once more that no economic phenomenon is rootless from a genetic point of view. Any wage, like any other price, has a certain link with the past. Market wage of today is influenced by the former market wage in connection with the principle of marginal productivity.

4. In real life, an entrepreneur does not consider labor as a uniform factor of production because he thinks in terms of different kinds of labor and regards each skill as a separate productive agent. Instead of subtracting or adding labor to a fixed quantity of real capital, he may add one labor skill to the given quantity of capital and other kind of labor. This fact is stressed by Sorel, Henry Moore and Bertil Ohlin. In such a case, any skill is regarded as a separate productive agent who does not compete with the other kinds of labor. It is necessary to distinguish between skilled and unskilled labor because real capital is mostly substituted for the lower skills or for the workers who do not possess any skill at all. In addition, many workers with a given skill are distinctly superior to their fellow-laborers and thus introduce a new element which changes the familiar simplified picture.

One should not forget that, in reality, not the marginal worker in the sense of a human being, comes into consideration but the marginal labor unit in a narrower sense. If a man can do twice as much physical work in a day as another man, he practically represents twice as many labor units, as the other. In Soviet Russia, a 'shock worker' means a laborer whose efficiency or productivity surpasses that of an average worker. This 'storm worker' is a bearer of at least two labor units and is rather unpopular because any super worker raises the norm which determines piecework wages. It is evident that demand for labor and the actual efficiency of the given labor supply are closely inter-related because any 'storm-worker' increases the given amount of labor units. If, for instance, two non-competing communities have the same quantity of non-human factors and a hundred workers each, but one of them has fifty percent super workers, it virtually possesses one hundred fifty workers and the marginal productivity of labor in this second community will be lower, provided that other factors remain constant. If an employer must hire one additional laborer before his last added worker proves to be a normal marginal labor force and happens to employ a man who bears two normal labor units, he will keep this man but may discharge one of the previous average workers. Since this case does not change the principle but only makes it more complex, the theory of marginal productivity introduces two following assumptions:

1. Any additional worker of the given skill is just a plain interchangeable average labor force who represents only one objectively normal labor unit.

2. A marginal net labor revenue should not be attributed to a single worker personally no matter how efficient he is but exclusively to the actual ratio of the given labor units of the respective skill to the given constant complementary productive agents.

Consequently, according to this approach, there is a complete identification between marginal worker and marginal labor unit. The question, however, arises whether a 'shock-worker' acts in real life as a labor saving device. In order to give a reply, we must distinguish between the following three cases:

(a) If there is a very definite or fixed amount of tasks so that the point of saturation for labor is very distinct an additional super-worker hired as a marginal labor force will necessarily induce the employer to discharge an average worker. It is evident that the wage paid in this case is a time wage. Here a 'storm-worker' acts as a labor saving device.

(b) If the time wage is paid and the employer is willing on account of a change in the data to increase the output above the original plan, an additional (presumably marginal) super-worker will lead usually to an increase in employment. If the employer expects the last added worker to whom he pays \$200 per month to bring in \$200 but gets from him \$240 he will employ somebody else. Such a case can occur if the last added worker increased the marginal product by making the given machinery more effective. If, however, there is no change in data so that the increase of production above the plan would be disadvantageous since marginal revenue would be below marginal costs, the employer will dismiss one average worker.

(c) In the case of a piece wage system, a presumably marginal storm worker will be disadvantageous for the other workers, although not in the same way. When an increase in output above the plan is for some reasons possible, the marginal worker who turns out to be a super-worker is not a labor saving device. Yet, other workers will be hurt because the employer will tend to increase the norm or the task assigned to an average worker. If an increase in output is disadvantageous for the firm, the employer will discharge one average worker. Thus, an additional super worker is advantageous for the bearers of labor only if he gets a time wage and the firm can expand its output.

5. The theory of the normal wage based on the principle of marginal productivity taken in its purest form resembles the classical theory of normal price. Namely, it is assumed that under free competition, the actual market wage may in the short run deviate from the genuine normal wage which equals

the specific product of labor. Yet, it must tend toward this equilibrium wage because when the marginal worker gets more than the actual normal wage, he will be dismissed or substituted by a machine. Since, however, all the unemployed workers continue to compete even if in a latent way, with the actually employed workers, the wage will go down until every worker is employed. If the worker begins to earn less than the actual normal wage, it will be profitable for the employer on account of the marginal net revenue to increase the amount of labor employed; the competition among the employers which will ensue will force the actual market wage to rise to the level of the actual normal wage. It is consequently believed that when the actual real wage equals under pure competition the current normal wage, there will be a full employment of labor. Here is a complete analogy with the Classical price theory which likewise assumes that under free competition when the objectively normal price equals the realized market price, each good will be sold. In both cases, however, we have a simplification because for instance an inflexible technical co-efficient may prevent absorbing the unemployed ready to work while the producer may refuse to sell all goods at the objectively normal price if he has some better anticipations. Only in a stationary economy will the development take place according to the normal scheme necessarily.

6. The process of substitution, just like the hiring of labor, is a continuous process. For this reason, there can be several 'points of indifference' at which the substitution stops, but only one among them will be the 'normal point' under the given conditions. We have to distinguish between the two following cases:

(a) Any 'non-ultimate' or rather abnormal point of indifference excludes the further application of substitution because at this point each complementary factor of production yields just the same marginal net revenue so that there is no motive to change the given technical co-efficient. On the other hand, the process of hiring labor does not cease under such conditions because the marginal worker is not yet the normal marginal labor force. This is true also of any other factor of production. For this reason, expansion of production will continue without any substitution until the normal status of indifference is reached when no factor any longer yields a vertical rent.

(b) The normal point of indifference at which there is no substitution and no hiring is only a quasi ultimate status because it can be disrupted at any time by a sudden disproportionate change in the physical marginal productivity or in the remuneration of one of the complementary factors of production which will cease to be the normal marginal unit. Thus, the normal indiffer-

ence status which in principle represents the total equilibrium point in real life is not fundamentally stable. For this reason, each going business concern may have several consecutive normal points of indifference during its existence provided that conditions are dynamic.

This implies that the process of changing the technical co-efficient to the detriment of labor does not necessarily stop in real life when the business concern thinks that it pays the actual normal wage. So, for instance, when a marginal labor unit costing \$100 seems to turn out work worth \$100 but a certain kind of machinery whose services likewise cost \$100 begins to produce 'on the margin' \$110 the manufacturer under pure competition will tend to employ more machines of the given labor saving kind since their remuneration is comparatively low. The manufacturer will act in this way until the marginal productivity of the machine in question drops to the point of saturation. However, in real life it frequently happens that the makers of the machine quickly raise its price and thus wipe out its comparative profitability which, in turn, stabilizes the technical co-efficient.

7. As pointed out before, the rate at which one factor of production will be substituted for another in response to a change in their relative remunerations is called the elasticity of substitution. Should, for instance, an increase in the rate of interest by 5% induce the capital cooperating with labor to decrease in favor of labor by 5% the elasticity of substitution is equal to unity, that is, is very high.

When there is almost full employment of the labor supply, the process of substitution will be seriously retarded because the respective elasticity of labor must be low since the workers who remain unemployed at this time and who could be used for substitution normally show aversion to work and consequently do not respond to a vacancy and even to an increase in the current wage rate.

The principle of marginal productivity ultimately pertains to the real wage or to the amount of material commodities and services which can be purchased with the corresponding nominal wage expressed in terms of money. There is no doubt that this principle is especially conspicuous within a self-sufficient barter economy. For instance, a more or less self-contained farmer under free competition tends to give such a reward in kind to his non-bound farmhands that does not surpass their specific product likewise taken in kind. In other words, in a barter economy any interchangeable farm worker will get a quantity of food and other consumption goods that is produced by the normal marginal farmhand. Also, within a regular national economy, the normal wage (as a real wage) which has a tendency to be materialized

in real life assigns to any seller of indirect services a share in the social product that under free competition really corresponds with the productive contribution made by the normal marginal worker employed by the marginal firm. Practically, at any time there are several normal marginal workers because any skill should be considered as a separate factor and there will be a distinct marginal firm for each skill. Under unfree competition the normal real wage will not really reflect the productive contribution of labor.

Under static conditions, any change in real wages is accompanied by an equal corresponding change in nominal wages since they are expressed in terms of a stable neutral money. Under dynamic conditions, however, there is frequently a discrepancy between these two kinds of wages. Any increase in money wages which is not permitted by the actual size of the social product under the given conditions of distribution lowers the actual real wages because the real wage will have to decline when the inflated money wage is gradually losing its purchasing power due to the rising cost of living. The tendency to disregard this negative development is especially pronounced when there is almost full employment and the workers who are rather scarce demand a further increase in money wages which does not correspond to their productive contribution. This will result in a decrease in their spending power because of rising prices. In the case of a major inflation, the actual money wage constantly falls below the genuine normal wage regardless of the market form, so that the normal development of the principle of marginal productivity is entirely upset and the marginal net revenue from labor appears as a permanent phenomenon. Yet, this case is abnormal and usually does not last for a long time because wild inflation decreases the purchasing power of money to such an extent that it leads to its own negation, *i.e.*, to a devaluation.

Real wages increase when the products of the 'wage-goods' industries are cheapened without a simultaneous decrease in money wages. This happens in particular when the physical marginal productivity of labor employed by these industries rises, increases the output and thus allows a decrease in the price of the respective products; or when expenditures of non-wage earners is shifted to non-wage goods as a result of a sudden rise in their prices, and in this way decreases the total demand for the wage-goods. The latter case is especially stressed by Pigou. During a regular depression, a decrease in money wages is accompanied by an increase in real wages because there is a comparatively important decline of the general price level.

Keynes over-emphasizes the importance workers attribute to money wages in his theory of under-employment. This kind

of wages is their main concern only in a short run (especially if there is a major inflation) unless the purchasing power of money is distinctly stable; but in this latter case, money wages will have no discrepancy with real wages. In the long run no worker tends to disregard real wages, even if labor unions practices cause the opposite impression.

Since any wage paid for indirect services is a price and any price limits the respective demand and assigns the priced object to those persons who possess the highest spending power, labor of every kind tends to be employed by those branches of the national economy which develop an effective demand for it by offering comparatively high real wages.

In the event of great mobility of labor, the law of uniform price will have a distinct validity and the real wage will tend to be fixed for every skill at a margin which runs through the national economy as a whole. In other words, if the marginal productivity of labor increases in larger industries, any wage will rise, even perhaps the wage paid to a farmhand because backward industries will begin to lose labor attracted by more prosperous industries. As a result of this development, the marginal productivity of labor in a less prosperous industry will have to increase since labor will become more scarce so that the respective wage will have to rise accordingly. In reality such a development is but a tendency.

There will be always a difference in the real wages paid by various branches of the national economy and by the same industry in different localities to a particular skill ; yet, if labor were really mobile, the readjustment would continue until the marginal productivity of labor in different industries and localities is nearly equal and the difference in wages obtained by the same skill in principle becomes less pronounced. However, there will hardly be complete mobility of labor within the national economy. Adam Smith used to say that "man is of all sorts of luggage the most difficult to be transported". Labor represents a series of regional non-competing groups. This implies that the law of uniform price (or wage) cannot be too strict within a national economy and that the supply of labor is virtually decreased in any separate non-competing labor market. The regional imperfect mobility of labor under normal capitalistic conditions is caused by quite a few economic and non-economic factors, for instance, better lodging at home, cheaper food, family ties, local patriotism, stronger labor unions in the locality, regional agglomeration of industries, desire to retain pension and seniority, lack of knowledge of wages in other regions, etc. There are some major non-regional reasons why the law of indifference cannot be strictly applied to the remuneration awarded to labor even of the same skill, namely :

1. If an occupation is dangerous, the worker will be reluctant to take it unless he gets a comparatively higher wage than that which is usually paid for the same skill. In real life, however, the danger is not always realized, especially by the unskilled workers. Therefore, some communities introduce compulsory workmen's compensation insurance.

2. Sometimes wages depend on the social esteem in which the occupation is held. If two jobs require equal skill and training but one is considered more dignified, the worker could be willing to enter it at a lower wage.

3. Often a wage is influenced by the regularity of employment because normally no one will agree to perform seasonal work unless he gets a higher wage and thus is compensated for his inability to have a regular job. Examples of seasonal occupations in the United States are the work of harvest hands, shipping on the Great Lakes, etc. A seasonal employment does not require a higher remuneration if it is regularly connected with another occupation. For instance, this is the case in Canada where the loggers are employed in the wintertime by railroads. The cost saving which such seasonal complementarity provides sometimes is an important determinant of geographic specialization.

4. An agreeable occupation tends to be overcrowded and thus is usually remunerated at a lower wage than a disagreeable one, especially if this latter occupation requires a certain skill, for instance, the job of a mechanic in the iron works.

5. The wages of women are lower because there is a restricted demand for their services. An entrepreneur usually takes into consideration the fact that a woman frequently gives up her job or becomes a part-time worker as soon as she marries. Consequently, it is less remunerative for a firm to train a female worker although she could be as skilful as a man. In addition, until now the female workers are less subjected to the process of unionization.

We shall later see in another context why in spite of all the above mentioned facts even from a theoretical viewpoint the principle of uniform price is after all not as much violated in the labor market as it seems to be at first glance, although there is always a considerable difference in the wages actually paid.

The principle of marginal productivity pertains directly to the demand for labor. Yet, it is closely linked with the problem of the supply of labor because the marginal productivity is in part a function of the quantity of labor employed together with the complementary productive agents. The supply of labor is determined by the following factors :

1. By the costs of labor which normally include the costs of education, subsistence and pro-creation. However, von Wieser is correct when he says that the relationship between the supply of labor and these costs is not as close as between the costs of production of material goods and their supply and prices. Even a bearer of passive human labor of the lowest grade does not treat his effort entirely as an ordinary economic good. In real life, no normal human action is totally based on the principle of cost accounting. There is no uniform attractiveness of different lines of work since almost every human being has a vocation. Besides, the learning of a skill takes time and no individual is able to judge correctly the coming changes in the demand and supply of labor in different markets. It can easily happen that when he enters the chosen profession which required a long and costly preparation, this field may be over-crowded and less remunerative than expected so that he must forget about the expenses in learning that skill. Also, the concept of subsistence is very vague. A real subsistence wage ought to be a "maintenance income" in von Wieser's terminology, which provides for periods of illness, old age, unemployment, loss of wages by strikes, care of widow and dependent children etc. Yet, until now, the subsistence wage which many persons agree to accept under the pressure of competition does not by any means yield such a complete maintenance income.

2. Labor is a perishable commodity in a double sense, namely :

(a) Like the strawberries on the market on Saturday, labor usually must be disposed of. This circumstance standing by itself points to inelasticity of most indirect services. In the long run every manual worker's services must be sold regardless of price or be a serious financial loss. Consequently, the lease of labor is often a forced sale. This is especially true of unskilled labor which is substituted more easily than any other kind of labor. It cannot normally get a monopolistic standing.

(b) Labor as physical energy cannot be advantageously stored, at least on a major scale. Only a professional man can use his provisional forced leisure for building up a larger stock of immaterial energy (*i.e.*, knowledge). This explains once more why a seller of direct immaterial services is in principle able to wait for higher wages. Only in such a case may forced unemployment develop a man's skill. This is especially true of a scholar's work.

3. The supply of labor is determined in part by the willingness of the worker to undergo the painful exertion inherent in any kind of labor. Besides, since labor is virtually inseparable from the person of a worker, when a man leases his labor, he

gives up a certain amount of control over his life. For all these reasons, he tends to compare constantly the pleasure derived from his leased labor (practically his real income including intangible items) with the corresponding painfulness of his efforts. This kind of hedonistic calculus is a great factor determining one's willingness to work when the respective worker for some reasons already has an income which covers his living expenses or when overtime work comes into the question. In such cases, the Classical and Marginal schools are right in maintaining that the actual real wage tends to be equal to the marginal disutility of the employment. Any worker under more or less favourable conditions tends to avoid additional work which creates a negative hedonistic balance, that is, produces an excess of pain over satisfaction, whereby any hour of work which is not the last one brings him a certain psychic "vertical rent". This idea is stressed very much by Jevons and Marshall. In particular, Marshall emphasizes that since man's forces are limited, any labor is under pressure of increasing disutility and stops as soon as the psychic net revenue which he defines as "producer's rent" becomes negative. If a worker is accustomed to a higher plane of living, he may agree to work a greater number of hours, when the real wage falls. But, if he sees that the lost amount of pleasure derived from leisure means more than the products which he gives up by agreeing to earn less, he will adjust himself to a lesser amount of comfort. Besides, he cannot overlook the fact that longer hours mean less efficiency so that in the case of a piece wage system, his hedonistic account will quickly assume a negative nature. Oscar Lange says that an apportionment of services of workers between the different occupations tends to make differences in the actual remuneration of labor in the various occupations equal to the differences in the marginal disutility involved in their pursuit. To be still more exact, the choice of an occupation offering a lower wage but also less disutility may be interpreted as the decision of the worker not to be guided by a real wage which would only reflect the money wage but to pay attention also to some intangible satisfactions connected with his employment, such as a greater amount of leisure, security, agreeableness of work, etc. In real life a real wage appears in the following three forms :

(a) As a real wage that simply reflects the money wage regardless of invisible items which are either measurable in money or completely intangible.

(b) As a real wage that includes some invisible items which are measurable in money. So, for instance, the particular employment may procure a cheaper apartment, special transportation, recreation, travelling etc. This development is typical of any totalitarian country which tries to appease and to patronize

the factory workers. When the real wage of a worker measurable in money exceeds the money wage, there are some hidden parts of his real wage.

(c) The real wage includes some strictly intangible items which are not measurable in money, as, for instance, friendship, security, leisure. All this implies that violation of the law of indifference in the labor market is not as great as it seems to be at the first sight. Yet, in real life actual real wages received by two workers of the same skill are often different either in a formal or in a real sense for the following reasons :

1. For a social reason, when because of the "subsistence principle" a direct family allowance or lesser income tax raises the wages of one worker. Here a difference in the wage is usually of formal bias. In other words, no worker personally is better off.

2. One account of an interregional immobility of labor. Two workers of the same skill will be remunerated differently in various regions and the difference in the wage will be real.

3. For psychological reasons, because different occupations have various degrees of increasing marginal disutility of labor. In such a case the difference in the wage is rather formal. The same is true in the case of a higher remuneration paid for risky, unhealthy and seasonal work.

4. For purely economic reasons, as in the case of the piece wage system, when a worker is remunerated according to the efficiency of his labor. Here the difference in wages is usually real.

5. On account of some intangible items which may eventually cause a real difference in remuneration.

As already mentioned, the supply of the labor is influenced by its stratification because any skill represents a separate factor as a non-competing labor group. On the other hand, Henry Moore is right when he says that under modern technological conditions, there is practically interaction of skilled and unskilled workers who do not compete with each other so that their wages show a considerable degree of correlation. This is especially true on account of the complementary relation between unskilled and highly skilled labor which now is conspicuous. In any case, merely the number of workers in a non-competing region does not give a real insight into the actual strength of the local labor inventory because skill and efficiency should be taken into account since the quality of labor affects its quantity.

Under pure competition the supply of labor becomes artificially scarce when real wages are driven below the specific product of labor *i.e.*, if the going market wage rate is lower than

the actual normal wage. Under such conditions, provided that there is no depression, labor becomes very scarce because every employer starts to hire additional labor and the most efficient skilled workers tend to give up their paying jobs in order to enter the ranks of minor employers.

The theory of marginal productivity uses two important *indices unique* which do not give an exact measurement but serve as symptomatic devices.

The first index of this kind is the process of *substitution*. If the employer begins to substitute real capital for labor, it is possible to conclude with a considerable amount of certitude that the current market wage exceeds the actual normal wage. Yet, sometimes the substitution in the disfavor of labor takes place when both wages are at the given moment equal because changes in machinery such as an internal innovation may suddenly break the status of indifference. A good example of such a case is the revolutionary improvement on Newcomen's steam engine made by James Watt at the end of the 18th century.

The *second* important index is represented by the specific product of a primary factor of production because it is the only instrumental device which can approximately determine the normal functional contribution of the given agent under free competition. For instance, a genuine normal wage shows the functional contribution of labor as such. Yet, it is not an exact measurement because any primary factor is a complementary good so that even the specific product of labor (*i.e.*, contribution of the marginal worker) in reality is the result of a cooperative effort under pure competition. Nevertheless, the specific product of labor will be a satisfactory index unique whose degree of approximation to reality will be high enough to indicate the marginal functional efficiency of labor. A greater degree of accuracy is hardly possible in a social science.

The genuine normal wage has no stable limits beyond the given moment, although in principle it represents an equilibrium phenomenon. Furthermore, actual real wage may deviate from the current normal wage at any time within some distinct limits which are either ultimate, that is natural, or minor, if they appear as a distinct institutional phenomenon. In both cases, however, it is necessary to distinguish between an upper and a lower limit. The idea that there is a certain upper natural or "iron" limit which cannot be transgressed by even an abnormally rising real wage is advocated by any version of the wages fund theory which in the last analysis can be reduced to the following two approaches :

1. *Classical approach* : (*i.e.*, the old version), represented by Adam Smith, Senior, both of the Mills, Cairnes, Bohm-Bawerk,

Sombart, to name but a few. This approach assumes that there is a definite wage-fund at all times out of which actual wages are advanced. Sometimes such a fund is conceived as a money capital, *i.e.*, as a "saved" investing power, as it is maintained by Smith and Senior. Sometimes, however, this fund is supposed to be a quantity of stored wage-goods (or means of subsistence) as presumed by Malthus and Bohm-Bawerk. It is interesting to note that there is a great resemblance between Sombart's "personal capital" and the "variable capital" of Karl Marx since they both mean the same distinct money capital which exclusively serves for paying the current wages, although Marx hardly belongs to the Classical wage fund theory.

A faction of the old school maintains that there is an accumulated fixed fund which is used by employers for paying wages and which sets an *upper* limit to the actual functional share of labor in the social product of the period. Such a train of ideas leads still to the following conclusions :

(a) The wages fund not only sets an upper limit for real wages but theoretically must determine the actual "normal" wage because such a wage results from dividing the wages fund into the number of workers who are actually employed. The normal wage coincides with the going real wage if the law of uniform price is not disturbed. Otherwise, the theoretical norm will be violated.

(b) This divisor (or the supply of labour) is determined by the cost of producing labor which originally was the idea of Ricardo. The workers can influence their real wage normally only by regulating their number. A labor union is of no major importance because at the most it can favor some workers by disturbing the theoretical norm. This implies that other workers who do not belong to the closed labor group will get a smaller share in the fixed wages fund.

(c) The process of production is not a flow but a distinct period; it cannot take place unless there is an accumulated stock of non-human factors and the means of subsistence needed by the workers themselves.

(d) The normal wage is not considered from the standpoint of the principle of marginal productivity as we are accustomed to, but is a function of the actual relationship between the given wages fund and the actual effective supply of labor.

2. *The Remuneration Fund Theory* (*i.e.*, the new approach) promoted by Marshall, Pareto, Cassel and especially by this author. According to this version, there is no fixed wages fund assigned in advance to the workers and exactly determining their

normal functional share in the social product. Yet, there is an *upper* limit which is set for the whole distribution no matter if it is a functional or a personal distribution. For this reason, there can be no limitless increase in the going real wage. The main ideas of this approach can be reduced to the following propositions :

(a) In the last analysis, the upper natural limit to real wages is set by the technical (physical) productivity of the national economy as a whole. Since, however, labor is only one of the complementary factors of production the virtual normal natural upper limit of its remuneration will be determined in principle by the physical productivity of the factor labor as a whole and still more precisely by the "lucrative-ness" of the actual normal marginal unit of labor (keeping however regard for the different skills). Consequently, it is assumed that under normal capitalistic conditions and from a purely economic viewpoint the real wage which is actually paid should not surpass the genuine normal wage determined in conformity with the principle of marginal productivity. It is admitted however that under abnormal conditions, which are rather frequent, the functional share of labor can outgrow the limit set by the normal development of its marginal productivity to the detriment of any other primary productive agent although such an abnormal development cannot go unrestricted since any other factor must be remunerated out of the actual national real income which in spite of its dynamic character cannot be changed overnight. Furthermore, under capitalistic conditions, the social limit of profitability must be observed also. In other words, the modern version of the wages fund theory implies that the going wage rate cannot be fixed in advance because there is no exact portion of the social product which in practice would be uncompromisingly reserved for the factor labor. The marginal productivity or rather "lucrative-ness" of labor determines only the normal functional share of labor in the social product especially under pure competition but the genuine normal wage is not too strictly observed in real dynamic life for institutional reasons.

(b) The remuneration fund (social product) cannot be artificially increased at least on a large scale since it consists of material goods and services. An artificial injection of spending power in the most cases causes only a redistribution of the actual social product in that period but does not raise it during this time, although a minor increase in the remuneration fund might eventually occur. Thus, the Keynesian standpoint can be accepted only with a serious reservation.

(c) If the national money income is inflated in order to raise wages, the share of labor in the social product will increase

because workers will possess a comparatively larger spending power. Since, however, this will happen to the detriment of some other social group who will have to lose a portion of their expected real income in favor of labor, the aggregate productive potential of the country may eventually decrease, which will result in a smaller social product being available in the near future. Also, the food stocks of the national economy may eventually decline in this case because the farmers who possess such stocks may consume them in a considerable measure or decrease their current production if they discover that their share in the marketed portion of the national real income is constantly lowered.

(*d*) There can be only a few cases when the national real income representing a "remuneration fund" fails to set a limit to the entire distribution. This occurs for instance when the national economy consumes its vital minimum stock of material goods (*i.e.*, its essential reserves) or sells a portion of its gold reserves to import additional means of subsistence. Under such conditions, the actual remuneration fund is artificially and dangerously increased by depleting a portion of the national real wealth so that the nation temporarily ceases to live on its current real income and the eventual stocks of a non-vital nature. If, however, the country consumes the farm products accumulated by its Government as a means of stabilizing the prices of agricultural produce the remuneration fund will be increased in a healthy way.

(*e*) According to the modern version of the wages fund theory, the divisible remuneration fund is not a rigid and literally perceptible quantity of the material goods and services but a continuous flow from which any gradually actualized individual real income is derived, so that also labor gets its functional share gradually and thus does not necessarily consume the stored goods but also (perhaps even chiefly) the produce of the current process of production.

(*f*) There is an interaction of the efficiency of workers and their earned income. Lujo Brentano maintained that the bigger the real wages are, the greater becomes the physical marginal productivity of labor and consequently the greater portion of the social product is assigned to the workers. One can, however, object to this proposition, as Paul Douglas does, by assuming that sometimes the workers who enjoy a more comfortable plane of living start to work fewer days and thus lower the intensity or the effectiveness of their labor.

The reason for such a development is the fact indicated by John Hobson, that a worker's activity in contradistinction to that of an artist involves high "human costs" and a negligible "human utility."

Summarizing, we can say that in the last analysis the natural upper limit of real wages is determined under normal capitalistic conditions simultaneously by two factors, namely : by the size of the current social product depending upon technological productivity of all factors of production (in particular of labor) and by the social limit of profitability which determines how far the aggregate net revenue of the employer can be curtailed in favor of labor without seriously affecting the private initiative. Both phenomena are in strict interdependence because the social limit of profitability influences the size of the social product since in principle it restricts technological productivity, while on the other hand, this "limit" depends upon the current volume of national production.

If the social product, conceived as a remuneration fund roughly sets the natural upper limit of real wages, their natural lower limit in any socio-economic order is fixed by the actual living expenses determined under not too primitive conditions by the given plane of living as well as by the eventual chance of having another occupation that provides at least the necessary conventional "means of subsistence" or, in other words, by the objectively normal opportunity costs.

If the early version of the wages fund theory helped to determine the natural upper limit of real wages, the early subsistence theory of wages gave a certain explanation of how their natural lower limit should be fixed. Each theory, however, did not realize that it pertained only to the natural limits of real wages and claimed to determine the actual normal wage itself. Von Wieser said that the subsistence theory of wages may be able to fix the normal wage itself but only under the practice of a primitive people. The main propositions of the intermediate version of the subsistence theory of wages are as follows :

1. The "normal" price of labor (or the natural wage), is determined by the corresponding costs, that is, by the means of subsistence which are necessary for the worker and his family in conformity with the actual prevailing plane of living. Consequently, in this case, "normal wage" is not explained from the standpoint of the marginal productivity principle.

2. The going real wage conceived as a market wage rate oscillates around the normal wage. When the real wage surpasses the normal (or "natural") wage, the workers are able to support a larger family ; they will tend to act as procreators and thus will raise the supply of labor. The resulting increase in the working population will depress the going wage rate by lowering it to the actual level of normal wage. When the real wage falls below the normal wage, there will be a reverse development. Namely, the ensuing decrease in working population will raise the market

wage to its natural level. It is evident that this theory of wages has a biological character and is based on a rational application of the Malthusian theory of population shaped in conformity with Benthamian teaching which maintains that population always tends to be modified in accordance with the means of subsistence of the country even if it has a certain tendency to outgrow them.

3. The going market real wage will be virtually above the actual normal wage determined by the plane of living if the national economy is progressive, *i.e.*, when the capital which represents an effective demand for labor increases faster (or by a greater amount) than the corresponding working population. This is a proposition which was tentatively sketched by Adam Smith. It improved the more primitive and pessimistic version of the subsistence theory of wages and brought it into a close relation with the original wage fund theory.

The original popular simplified version of the subsistence theory of wages was very pessimistic for the following reasons :

(a) It was assumed that the real income of a laboring family as far as it can be measured in money will at the most always be a little above the necessities of life.

(b) The working class destroys for itself all gains from improvements in technology by increasing the supply of labor, which thus shows an extremely high degree of "income elasticity".

(c) Real capital will not increase quickly since it becomes more complex and its production necessarily requires a longer time. Consequently, in the future the working class will have a decrease in real capital goods per head. In any case, an increase in the production of food which should accompany the growth of population is inevitably confronted with the law of diminishing returns whose pressure has to grow. Hence, real wages must be in the future lower than before.

The subsistence theory of wages has been important in the past but it cannot be accepted in its simplified form for the following reasons :

1. It can explain the formation of normal wages only under the most primitive conditions. Otherwise, it virtually pertains only to the lower normal limit of real wage. This is seldom understood by economists. Even one of the main exponents of this theory, Ferdinand Lassalle, misinterprets its meaning by assuming that it represents a natural "iron law" of wages while in reality it shows the existence only of a natural iron lower limit of the real wage.

2. Productivity of labor is completely ignored by this theory, although it can be proved empirically that under normal condi-

tions when the marginal productivity of labor rises, the real wage tends to increase.

3. Improvements in transportation and technology (especially in an agricultural technology) are able to cheapen the production of wage-goods and thus to raise the real wages even in spite of a simultaneous growth of population. Besides, even if the production of real capital required a longer time (which is not necessarily the case), some technological devices could largely increase the efficiency of the real capital goods and thus virtually raise their supply. A change in quality often practically means a change in quantity.

4. The theory of subsistence exaggerates the elasticity of the labor supply in a biological sense which in reality is rather low. In particular, it should be noticed that an improvement in the plane of living rather tends to check the growth of a civilized population for the following reasons :

(a) The desire of parents to secure a better economic position for the child lowers the quantity of progeny.

(b) If a worker is accustomed to a greater comfort, he may be reluctant to marry, especially if real wages tend to decrease.

(c) Women pursue a professional occupation and get married later when their ability to have children declines.

The subsistence theory of wages is however until now valid provided that it is modernized and is applied only to the explanation of the lower natural limit of real wages. In its modern form, it contains the three following propositions :

1. The lower natural limit of real wages is determined by the living expenses of a small family, depending upon labor of one average wage earner. The living expenses are fixed in conformity with the most modest form of the actual plane of living. It may eventually happen that the real wage of a working family will fall below the above-mentioned limit. Yet, this cannot occur as a mass-phenomenon for a long time under modern conditions in an advanced nation because such a development will be checked by a social revolution.

2. If the national economy has an obligatory and universal relief system granting a definite adequate dole to any unemployed, this dole determines the lower natural limit of real wages because a normal worker will have a negative psychic revenue should he make an exertion which does not interest him as such for a smaller remuneration than the actual dole. If the country has an adequate old age pension system and the actual benefit surpasses the dole, this pension will determine the lower natural limit of real wages

paid to the old people. In an agricultural country, the real wage never can fall below the average remuneration of the marginal farmhand on the marginal land, as is correctly maintained by Franz Oppenheimer.

3. The lower natural limit of the salary paid to a higher class of employees who render indirect services as well as to the higher strata among the persons who sell direct services cannot fall below the respective peculiar opportunity costs, namely below the wages of management received by a self-employed small store keeper (usually a grocer), or by a small farmer—This was stressed by Charles Gide and J.B. Clark in particular. This proposition is especially typical of France.

The first economist who consciously combined the remuneration fund idea with the subsistence theory of wages was Henry von Thunen, who also introduced the principle of marginal productivity. His main desire was to prove that workers can raise their wages by increasing their efficiency even if the "reproduction costs of labor" (conceived as a means of subsistence) remain the same. For this reason, von Thunen developed a peculiar formula of a just wage which he considered as his best achievement and which according to his will was engraved on his tombstone. This formula is represented by a geometric square root of the product of the amount required to maintain workers on a minimum of subsistence and the total product which reflects in particular the actual productivity of labor. The reproduction costs of labor and the simultaneous total product are expressed either in kind or in terms of money. Thunen's standpoint was very progressive because his formula ultimately implied that workers can require an increase in real wages when the technological productivity of the national economy grows and thus the remuneration fund increases. Besides, von Thunen realized that the normal wage is determined by the principle of marginal productivity and not by the remuneration fund or by living expenses. This is the reason why his formula pertains to the "just" and not to the "normal" wage. In other words, he insists that a real wage should increase regardless of labors' marginal productivity when the means of subsistence get more expensive. Yet, von Thunen did not elaborate the idea that in real life, the actual real wage which in principle moves between the extreme natural limits and oscillates around the genuine normal wage, usually moves within some much narrower institutional limits that are determined by the distribution of social power within the national economy. In other words, nowadays the workers quite frequently get a real wage which even for a long time somewhat deviates from the genuine normal wage but not in so radical a way as to reach a natural limit.

This development was realized and in principle correctly

explained much later by the famous Russian economist Michael Tugan-Baranovsky, who developed the so-called "social theory of distribution". The wages theory of Tugan which in some respects is unacceptable can be reduced to the following propositions :

1. There is no difference between functional and personal distribution because one's share in the social product is based on the distribution of social power and consequently does not represent a price problem.

2. The going real wage is determined by the productivity of the entire national economy and by the comparative social importance of the working class. An increase in the social product caused by a growth of the productivity of the non-human factors of production will raise the functional share of labor if the workers enjoy greater social power than their employers.

3. An employer, unless he is a monopsonist or enjoys great social power, cannot do much against the rising wages because he is unable to counteract this development by changing the line of production or by curtailing his demand for labor to a considerable extent. So, for instance, a producer of shoes cannot turn to the production of tables if his workers demand a higher wage because he is restricted in his policy by the presence of some specific producer's goods, does not know much about the techniques of table manufacturing, may expect an over-production in that line, etc.

The first proposition of Tugan, which was introduced before him by Eugene Duhring, is untenable because any wage is a price paid for the use of labor. Wage formation is strictly influenced by the respective social background ; yet, any other kind of price formation likewise is socially bound because there is always a certain even if a veiled struggle between competitors or between sellers and buyers. For this reason, one has to avoid any confusion between economic theory and economic sociology. One should never say like John S. Mill that economics is only one department of sociology. Tugan Baranovsky makes a logical mistake when he reduces the theory of wages to a pure sociological problem of social power and its distribution. This problem is decisive when one wants to fix the probable minor institutional limits of real wages but cannot absorb the whole wage theory. In spite of all this, Tugan's exaggeration is rather useful because it causes more caution. Namely, there is no doubt that wage formation should be considered from the standpoint of economic theory as a certain price formation : yet, no modern economist has a right to forget that a wage is a price paid for human effort, so that in this case quite a few sociological and ethical problems necessarily are involved. It is evident that capitalism will never

survive in our time if it openly treats labor of any kind as an ordinary economic good.

The third proposition of Tugan is unacceptable because an employer, even if he is not a monopsonist and has no overwhelming social power, can be practically in a position to take some measures against an excessive increase in real wages. Namely, he can act in one of the following ways :

1. He may substitute the non-human factors of production for labor. Tugan under-estimates the importance of the process of substitution in his theory of wages. Only in some cases which are comparatively rare will the employer be unable to replace an average worker by another factor, if, for instance, he has no floor space for the additional machines, or if he is so short of funds that he cannot make a capital outlay. In a reverse case, namely, when the wage rate is falling, the employer may be prevented from applying the process of substitution in favor of labor. For instance, a railway company would not entertain the idea of adding another mechanic to each locomotive or another conductor to each train as lower wages were considered. Also, in some other cases, demand can be for functioning combinations of labor and equipment as a unit rather than for individual workers. A cotton mill owner has a definite number of workers for the adequate operation of looms and spindles. Yet, all these cases simply restrict the applicability of the principle of substitution but do not remove it especially in the longer run even if in real life, the substitution pertains often to an entire mixed labor group (skilled plus unskilled labor) or to a mixed functioning producing unit. In any case, substitution in disfavor of labor is a comparatively easy process.

2. The employer, if he is powerful can develop his production abroad by establishing branch factories. So, for instance, many American manufacturers use the cheaper labor of Canada and Mexico. Here, foreign labor is substituted for domestic labor and thus increases the amount of the latter from an economic viewpoint.

3. If the employer is a monopolist who is able to fix the price of his product and manufactures some wage-goods, his workers who request an increase in wages will see their real wages somewhat reduced if in retaliation he raises the price of his product because they will suffer as consumers.

The second proposition of Tugan should be accepted in principle since its first item means that there is a certain remuneration fund which determines the upper natural limit of the real wages. Each time this fund increases, the functional share of labor will rise, provided, however, that the workers have social power.

This is especially necessary when the increase in the social product was caused by a rising efficiency of the non-human factors of production. Otherwise, the ensuing increase in real wage will be followed by a still greater increase in unemployment.

The chance of organized labor to raise the actual real wage, especially of the skilled workers over the genuine normal wage which was predicted by Tugan-Baranovsky is quite distinct now because today the formation of "monopoly wage labor groups" is frequent. Many institutions of this kind behave like monopolists and violate the normal development of the marginal productivity principle since they create restricted privileged labor groups. Sometimes they literally monopolize the employer's labor supply if they enforce the closed shop principle. Such labor unions usually act in one of the following ways :

1. A monopoly wage labor group forces the entrepreneur to raise real wages above the actual genuine normal wage but does not prevent him from discharging some workers. As a result of such a policy, there will be on the one hand considerable unemployment but on the other hand the remaining employed workers will enjoy an institutionally stabilized higher real wage. It is evident that their marginal productivity will not rise under such conditions and will not increase automatically the going normal wage unless the process of substitution takes place. The new higher normal wage will be, for this reason, distinctly artificial. In other words, a higher real wage became possible in such a case only because it is enforced by the labor union so that employment is practically restricted by the workers themselves in an institutional way. If, under these conditions, the regional monopoly wage group comprises in the locality most workers of the given skill, does not support its unemployed members and has no influence upon the mobility of labor in any way, the laid-off workers will lower the actual marginal productivity of labor in other regions and eventually in other branches of the national economy provided, of course, that they will not be handicapped by another monopoly wage labor group. In any case, each labor union can more easily influence the formation of real wages if the unemployed workers can easily move to another region or another industry, *i.e.*, when only a few dissenting unemployed members and outsiders remain who might offer their services at a cheaper wage rate. The same is true also if labor unions organize labor that is highly skilled so that the supply of the respective skill is almost naturally restricted. On the other hand, even a big union is unsafe if there are many outsiders. So, Rev. Leo Brown indicates that the American Union of Fur and Leather Workers which is very powerful in New England, is handicapped by the fact that the entire leather industry is not unionized. This implies that when union plants fix wages much higher than those

accepted by the non-union plants, the unionized leather workers are menaced by an increase in unemployment because the non-union plants will increase their output which is favored by the migration of the respective labor force. Yet, in spite of such a development, the unionization of the highly skilled workers producing styled leather still permits a rather aggressive wage policy since they are comparatively few.

It is evident that only a genuine monopoly wage labor group which practically monopolizes the entire given skill and supports its unemployed members is directed exclusively against the employers ; otherwise, a powerful labor union will frequently hurt the interests of fellow workers, who are outsiders or remain unemployed. Besides, as already mentioned, the position even of a large labor union is never secure as long as there are quite a few non-union plants, especially in the given region. For this reason, Leo Brown is right when he says that a labor union in a partially unionized industry must be constantly alert to the effect of its wage policies upon the employment of its members. This is true in particular if the labor of the given industry in the area is organized along oligopolistic lines. Besides, it should be realized that even a powerful labor union cannot neglect the fact that an increase in wages may eventually stimulate the growth of competing industries. So, for instance, the fear of increased motor competition has some restraining effect upon the demand of the railroad unions.

2. The monopoly wage labor group which is exclusive and powerful, forces the employer to raise real wage above genuine normal wage and prevents him from applying the process of substitution. Since any direct action of this kind is very difficult under normal capitalistic conditions, because it implies that the employer will have to agree to cede a portion of his expected surplus revenue to labor, this monopoly wage group may try a peculiar technique, namely ; it may set an extremely high price for a small group of workers, a lower price (*i.e.*, wages) if the employer agrees to keep a large number of workers and still a lower price, which is however somewhat above the actual normal wage, if he entirely abstains from substituting labor. Since substitution requires prompt and considerable capital outlay, the employer may prefer to abstain from it and to keep good relations with the powerful restricted union, provided that his actual "profit expectations" are not too seriously hurt, *i.e.*, that the given social limit of profitability is observed. In such a case, almost the whole burden of an increased wage is shifted to the employer because there is no increase in unemployment and the consumers remain immune. Consequently, in the last analysis, this is a positive case from the standpoint of the national economy as a whole. Neither unemployment increases nor private initia-

tive is seriously hurt while an important skill is better off. In a sense such a wage formation represents a forced profit sharing "sui generis."

There are still some other reasons why a labor union may succeed in raising the real wage above the actual normal wage even if it does not enjoy great bargaining power, namely :

1. The employers are financially weak and consequently virtually unable to make the capital outlay needed for the process of substitution, at least in a short run.

2. The commodity in question could not be easily produced if the customary technical co-efficient were changed, *i.e.*, if there is a technical disadvantage to introducing a labor saving device.

3. The demand for the commodity is quite inelastic, *i.e.*, it is not risky to raise the price of the product and thus to shift the burden of an increased wage to the consumers.

4. The part taken by labor in the total costs of the commodity is insignificant. This is the case when, for instance, the productively consumed raw materials represent the major portion of the costs. All such cases, however, are rather exceptional.

On the whole, the presence of monopoly wage groups discriminates against quite a few outside workers and thus breaks the principle of equality of opportunity.

When the organized labor represented by a labor union does not possess any social power at all, it still can be useful to its members if they try to obtain a fairer real wage which would be at least not below the genuine normal wage (even in a short run) and this for the following reasons :

1. Any private employer gives more consideration to collective bargaining than to any one employee because the loss suffered by him in the case of a prolonged strike can be quite serious, especially if he has large overhead costs which should be covered some day. Besides, a change in personnel temporarily disorganizes his business.

1. A modern bigger labor union usually builds up a fund which makes possible the payment of the so-called "out of work benefits" and thus enables any unemployed member to hold out for a better wage in the case of a strike or to abstain, at least temporarily, from competing with the employed fellow workers when the process of substitution directed against labor sets in.

It is, however, wrong to assume that non-unionized workers always get very low wages. Leo Brown, who investigated the American leather industry gives convincing evidence that there

are quite a few non-union plants whose workers get hourly earnings which are above the average in the industry and higher than in other occupations in the locality.

The right of workers to strike is a rather controversial problem. There are at least four following approaches to this problem in economic theory and in practice, namely :

1. Any totalitarian state including the corporate state (like modern Portugal) forbids any kind of strike, not only because it lowers current total production and thus decreases the expected remuneration fund but also because it creates social unrest. Socialism excludes strikes for the same reasons. All these movements consider labor as a citizen's duty.

2. Some liberal economists, for instance Pigou, do not sympathize in principle with strikes but try to excuse them by pointing out that the real loss inflicted by a strike is much smaller than is usually assumed because all the competing industries normally profit by such a development so that the national economy does not suffer too much.

3. Some other liberal economists, like von Wieser, contend that a strike is a just phenomenon if it helps the workers to appropriate a portion of the employer's aggregate net revenue, provided that this surplus revenue does not represent a "genuine" (dynamic) profit but only a stable monopolistic income.

4. Any strike is justifiable under normal capitalistic conditions when the acquisitive principle prevails, provided that it helps the workers to appropriate a portion of the employer's surplus revenue (including any kind of profits) within the limits set by the actual social limit of profitability and without impairing national welfare or creating a major social unrest. Such a proposition refines von Wieser's approach.

If the question whether strikes are permissible or not cannot be answered in a general way since their justification depends upon the circumstances, the same should be said of the minimum wage legislation by means of which the state tries to restrict institutionally the downward movement of wages. There are at least two cases when such legislation is positive, namely :

1. If the wages in an industry are below the genuine normal wage paid to workers of equal skill in other industries on account of an excessive supply of labor in the given field or because the workers of the industry are institutionally too weak to be able even in a short run to secure for themselves an adequate remuneration, the minimum wage law will force the employers to raise the current wage to the level of the genuine normal wage. This is positive even if it sometimes implies greater unemployment.

In addition, some low paid workers, like, for instance, young women remain unorganized and distinctly profit by a legal minimum wage.

2. If the industry is over-expanded, that is, if its customers pay an abnormally low price for its product, the introduction of a minimum wage which raises the current wage in the industry will increase the costs of production of the respective product and thus will drive some employees and workers into other industries so that in this case the minimum wage legislation will tend to remedy the existing maldistribution of productive agents.

On the other hand, the question whether minimum wage legislation is desirable will be answered negatively if the institutionally enforced minimum wage in a healthy industry for some reasons rises above the genuine normal wage—which can happen against the government's will. Since in such a case, the process of substitution will immediately ensue, only those workers who retain their jobs will profit. If the employers are able to increase the price of their product, they may abstain from discharging some workers. Yet, in such a case, they will counteract the institutional raising of wages by shifting the respective burden to the consumers. If, however, the minimum wage provokes only an inconsiderable unemployment or rises over the genuine normal wage for a short duration, its negative character will be controversial. William Kiekhofer points out that in the United States the introduction of a legal minimum wage in 1938 laid off only less than one half of one per cent. of the workers even in those industries which were most affected by the reform like *i.e.*, lumber mills.

Unorganized labor is in an especially hard position if it is confronted by an employer monopsonist who uses a kind of labor for which there is no demand by another employer in the area. Should the employer be a monopsonist his policy will be shaped in one of the following ways :

1. If labor is unorganized, the employer monopsonist can contract the output by laying off some workers although he does not intend to substitute them but simply desires to lower the market wage below the actual genuine normal wage. The sudden competition among workers which ensues will decrease the current wage according to the employer's plan. Since, however, the overhead costs per unit of output rise when production is curtailed, the employer monopsonist will create artificial unemployment which is not caused by the process of substitution, only as long as these, in a sense, "additional" costs do not wipe out the benefit obtained from a decrease in wages. The position of an employer monopsonist is especially favorable if he is simultaneously a monopolist because in such a case he can counterbalance the increase in overhead costs per unit of output by raising the price

of his product. Thus, a temporary decrease in the amount of output will cause him less trouble. As a final result of such a policy, a new real wage will be paid to a larger number of workers, but there no longer will be a genuine normal wage.

2. If labor is well organized and especially if it is represented by an exclusive monopoly wage group, it will be able to prevent the employer monopsonist from lowering the current wage below the actual genuine normal wage even in a short run. Since, in such a case, the employer practically has to pay a fixed wage, the laying off of labor would simply increase his overhead costs per unit of output. Here again is assumed that a decrease in the number of the employed workers brings about a simultaneous decrease in output—which must be expected since he paid a genuine normal wage.

3. If the employer monopsonist can freely hire some workers who do not belong to organized labor groups, his desire to lower wages is usually not very effective because the number of the outside workers can hardly be sufficient and he will have to try to increase this meagre supply of labor by raising the efficiency of the employed outside workers through a piece work system connected with premiums or by introducing overtime work. Yet, the above-mentioned labor supply can be expected to be inelastic under the assumed conditions since it will be especially sensitive to the principle of increasing marginal disutility of labor. In addition, the outside workers usually represent less efficient sub-standard labor. This implies that when the workers of this kind get piece work wages, they usually work slower than standard workers and for this reason incur greater overhead costs. It happens sometimes that a sub-standard worker uses two machines for producing the same amount for which a standard worker would have needed only one machine. For this reason, in real life, the workers of such lower efficiency are more frequently unemployed than anyone else even if the piece wage system is used.

4. An employer monopsonist will be powerless in his efforts to dump the wages if the state regulates them by fixing a minimum wage in conformity with the actual genuine normal wage or by introducing public works for all those workers who lose their jobs. He likewise will be powerless if the local labor enjoys perfect mobility and thus has a high degree of elasticity with regard to its own supply. Such a case is, however, hardly possible.

When an employer pays a uniform wage which exceeds the genuine normal wage, he not only practically curtails his aggregate surplus revenue in favor of labor but theoretically discriminates against non-human productive agents if he continues to remunerate them according to the principle of marginal productivity.

A policy of this kind can be advocated only from a sociological but never from a purely economic viewpoint unless one assumes that such an institutional raising of real wages leads to a considerable increase in the total spending power which in its turn stimulates the growth of the remuneration fund in conformity with Keynesian teaching.

Even a monopolistic labor union cannot overlook the fact that under modern normal capitalistic conditions, there are two fundamental reasons which, as a rule, do not permit the raising of the real wage over genuine normal wage without provoking an unemployment, namely :

1. The process of substitution, by means of rationalization which serves as a labor saving device, is congenial to an acquisitive economy because it prevents labor from appropriating a portion of the employer's surplus revenue. No institutional interference can stop this process for a long time since it is organically linked with the socio-economic evolution itself that tends to diminish man's physical exertion by increasing his command over nature which is especially evident when man substitutes real capital for his own (in particular physical) efforts. In other words, all labor saving schemes and labor saving real capital goods are a result of progress. If we, however, doubt the beneficial character of labor saving processes, there is no one to blame except the imperfections of our present process of distribution and the incompleteness of the social security policy. Only for this reason, structural unemployment acts at present as a curse instead of as a blessing.

2. Under modern conditions when unfree competition in the labor market controlled by monopoly wage groups accentuates the normal tendency toward constant relative over-population in terms of structural unemployment, any measure, as for instance, the actualization of a larger purchasing power as spending power by means of credit creation connected with public works, or by means of dishoarding, will be able only to ease the given relative overpopulation but not to remove it. The trend toward labor saving which is evident under normal conditions is aggravated by the fact that new industries arise in our time as labor saving industries, like, for instance, the production of aircraft, radio, aluminium, etc. Also, the development of the assembly line procedure contributes to this trend. In addition, modern structural unemployment which becomes especially conspicuous as soon as abnormal conditions, like, for instance, the shortage of goods caused by a major war or by an excessive institutional stimulation of spending power disappear, is still made more serious by the fact that the social limit of profitability is narrowed by institutional restrictions like higher wages, heavier taxes, etc. In this connection, many modern economists, for instance,

Keynes, Schumpeter, Hansen, Cronin, Edward Heimann, etc. speak about "vanishing investment opportunities", which are congenial to a "mature economy".

Roughly speaking, there are the following four reasons why a structural unemployment tends to grow in our time at least under normal conditions, namely :

1. A high degree of development of material productive forces so that real capital constantly breaks the given "indifference status" from the standpoint of the process of substitution.

(b) Unfree competition in the labor market which grows because monopoly wage labor groups become more and more important.

(c) The fact that quite a few new industries are from the beginning labor saving.

(d) The fact that social limit of profitability is narrowed by institutional obstructions.

In any case, at present, there is a general tendency to have relative overpopulation as soon as modern capitalistic conditions become normal ; this implies, however, that real wages have a chance to be raised above the actual normal wage only in case of an under-employment equilibrium, especially when the monopoly wage groups build up an institutionally protected position for their firmly entrenched members.

If the real wage cannot be raised for some reasons over the current genuine normal wage even by a monopolistic labor union, it still could be done institutionally by the state without violating the actual social limit of profitability. There are three ways in which the state can do this without provoking an increase in unemployment or making the additional unemployment less harmful, namely :

1. The state suggests that the employers cede a portion of their aggregate surplus revenue to the workers at the request of their labor unions but compensates them by granting a subsidy. In this case, the increase in real wages does not provoke unemployment but assumes the character of a concealed dole because some superfluous additional workers are artificially squeezed into the process of production of material goods. The burden of such a policy will ultimately fall on some categories of taxpayers, like rentiers, farmers and urban middle class. This method was sometimes used in Germany after the first World War.

2. Organized labor represented by quite a few monopoly wage groups formed for some skills and in the long run even

perhaps for unskilled labor, raises the real wage over the genuine normal wage upto the limit permitted by the social limit of profitability. In such a case, the process of substitution will increase unemployment. Any unemployed worker will be supported by the state which will use his services for the development of immaterial wealth. Each activity of this kind like, for instance, cultivation of flowers in public gardens or pure research work in the state laboratories is subjected to the law of stagnating marginal utility from the standpoint of the national economy as a whole. At least this will be true in a short run. In such a case, there will be no dole from the scientific viewpoint, provided that the services of the unemployed really increase the immaterial wealth of the nation. Also materially productive public works could come into consideration. Yet, here the law of diminishing marginal utility functions. The burden of financing such a policy would hurt all tax-payers including employers and the employed members of the labor unions. This method has something in common with the practice of the American New Deal.

It is based on the idea that an increase in technological unemployment is genetically unavoidable and temporarily harmless if it is institutionally controlled.

3. A state can create a committee composed of representatives of entrepreneurship and labor of each skill which would decide in a compulsory way what portion of the aggregate net revenue the employers have to cede to labor by increasing the worker's real income which can be done in the form of a money bonus or in kind, *i.e.*, in terms of services, like cheaper apartments, paid vacations, etc. It is evident that this last method, just as the first one, rules out any increase in unemployment. Only here the employers are institutionally forced to abstain from applying the process of substitution. The three ways which the government can use for raising the market wage over the genuine normal wage pertain in principle to different social economic orders, namely : the first one is congenial to "laissez faire" capitalism ; the second, to welfare capitalism and the third to a corporate economy.

The meaning of a "just" wage is very controversial. This problem is however vital because in a realistic dynamic economy, the current wage is fluid. There are at least four scientific approaches to this question.

1. *Functional* approach which represents the idea of a commutative, *i.e.*, a purely economic "exchange" justice. This approach is not uniform and should be subdivided into the following four sub-approaches :

(a) A wage is just if it equals the market value of the physical product of the normal marginal worker (*i.e.*, the 'sales

price" of the normal marginal product). In other words, only the genuine normal wage formed under free competition is just. This is held by such economists as J.B. Clark, Pigou, Frank Knight, Cassel and Joan Robinson.

(b) A wage is just if it is not below the normal "marginal revenue product" (*i.e.*, the marginal gross labor revenue). This is the case under pure competition but is violated under reverse conditions. Yet, this implies that the wage paid under unfree competition in the labor market will be just if it is frozen below the market value (or "sales price") of the normal marginal product. This standpoint is advocated by G.F. Bloom and Chamberlin.

(c) Wage is just if it equals the genuine normal wage regardless of the market structure. This implies that when an employer monopsonist pays a wage which emerges at the normal optimum point of input of labor (from the standpoint of the given market form), he does not exploit the workers although here he pays less than the market value of the normal marginal product or the marginal gross labor revenue. Such an interpretation of a just wage is congenial to the most modern pure functional approach which takes into account the variety of market structures.

(d) The functional approach experiences a sublimation when it is developed by an organically minded economist like Spann because in this case one assumes that either the genuine normal wage or the current market wage really represents an adequate remuneration from the standpoint of the given ramifying whole. In other words, one of the above mentioned wages is supposed to express the functional (social) significance of the given remunerated effort but not only the functional share of labor in a purely economic sense. This implies that the organic theory of just wage is not quite uniform although the identification of such a wage with the genuine normal wage is more common because the strict observation of the principle of marginal productivity is treated as a prevailing case. Spann transforms the idea of commutative justice into idea of a contributive (*i.e.*, social) justice without leaving the terrain of the functional approach. Yet, such an interpretation of the genuine normal wage could hardly be admitted at all in the case of an unfree competition in the labor market.

The weak point of most factions of the functional approach is the fact that they practically rule out a participation of labor in the employer's aggregate net revenue because the genuine normal wage is identified with a just wage. The only distinct exception represents the second version of this approach in the case of unfree competition. Besides, the usual criticism of the functional approach that one should not hold the genuine normal

wage for a just wage since any superior worker would be in this case considered as interchangeable and thus discriminated against in a negative sense is in principle true, although in real life such workers belong sometimes to a privileged group and get compensation in one of the following ways:

(a) One does not mix then with the average workers on an assembly line because they would be held back. For this reason, some particular firms hire them by offering a higher wage since these firms are able to take full advantage of the superior efficiency of 'shock workers.' Such a practice is typical, for instance, of some American automobile factories.

(b) Sometimes, the 'storm workers' are compensated by some system of bonuses which they receive as a supplement to the uniform real wage. In this case, the piece wage system can be a great help. Yet, in the last analysis, it is especially the efficient brain workers who are most underpaid because not every employer is willing to compensate them or is able to use their exceptional ability; only purely physical efficiency is virtually favored by the piece wage system.

2. *Subsistence principle approach*: promoted by the Papal Encyclicals and by some Catholic economists and philosophers who closely follow them, like Rev. Henry Pesch, Rev. Cronin, Rev. von Nell-Breuning, Rev. John Cantwell, S. J, to name but a few.

Pesch defines this approach as 'equivalence principle'. The just wage according to this school must enable the worker to meet adequately his ordinary domestic needs in conformity with the actual plane of living. Besides, it must be high enough to exempt the worker's wife and his ungrown children from an obligation to engage in acquisitive occupations. Even a bachelor should get a just family wage since he can get married at any time. This approach is based on the idea of social justice (i.e., 'contrubutive' justice) because the advocated just wage will secure a decent livelihood for everyone. In other words, wage formation cares for the common good in this case. However, this school of thought has some weak points from the standpoint of an acquisitive economy, despite its obvious merits:

1. Every worker is supposed to receive a standardized 'family wage' but if a worker has a larger family he will be qualified to obtain (ultimately) from the state a family allowance. Consequently, one can assume that the employer will be requested to give detailed information about the material situation of each worker which will be a complicated task in the case of a great number of employees. Besides, wage formation may easily become in a large measure a state affair financed by taxation as long as the capitalistic socio-economic order prevails.

2. Oswald von Nell-Breuning admits correctly that at least in our time, the payment of a just wage in the above mentioned sense can be often economically impossible because such a wage may violate the principle of marginal productivity while a private entrepreneur is usually unwilling to raise the market wage over the genuine normal wage. John Cantwell's assumption that an acquisitive entrepreneur may eventually agree to pay a living family wage to his workers when his competitors pay less even 'through no fault of their own' is too optimistic in spite of the fact that many capitalists at present have a feeling of 'social insecurity'. For this reason, the state will have to enforce the just living wage, provided that such a measure does not ruin the firm. Under such conditions private initiative may be seriously hurt.

Roughly speaking, the subsistence theory of wages which is an ethical approach is hardly compatible with capitalism but would fit very well a corporate economy, that will at least substantially restrict the profit motive, *i.e.*, acquisitive principle.

3. *Socialistic* approach maintains that a wage is just if it wipes out the whole aggregate net revenue of the entrepreneur. It is, however, usually admitted by the modern socialists that a provision should be made for enabling him to cover his expenditures on additional real capital goods and to obtain the objectively normal wages of management. All this provided that the private property in respect to the means of production is retained. In general, socialistic economists deny that the capitalistic genuine normal wage even under free competition assigns to the worker the full product of his labor. It sounds like a paradox but the exploitation theory of wages can be traced back to Adam Smith. In his opinion a worker is in principle underpaid and the normal wage would be bigger if the hiring of labor was not subjected to the acquisitive principle. In some other respects Adam Smith is by far more conservative than an exponent of the Marxian wage theory. So in contradistinction to him the socialistic approach shows a complete disregard for saving which is denied to be an individual sacrifice. For this reason, the socialists suggest that the social function of saving be nationalized. This approach is based on distributive justice, which is dictated 'from above'.

It should be noted in this context that Marx had a vague idea of the marginal net revenue from labor. In any case, there is hardly anything mystical about his exploitation theory of wages as it is sometimes assumed. According to Marx, uniform market wage determined by the means of subsistence is the market value of labor, while the gross contribution of the consecutive marginal worker (in our terminology) is use-value of labor of the respective worker. The famous Marxian 'more-value' is the excess of use value of labor over market value of labor. In other words, accor-

ding to the modern approach, Marx believed that the entire net revenue from labor should be appropriated by the workers. The weak point of his teaching is that the above-mentioned aggregate (rather integrated) net revenue from labor is only a certain 'vertical rent' and can be wiped out by the firm's losses caused by different factors. Besides, it is practically impossible to assign by means of wages the net revenue from labor in the case of a mass production when the workers are receiving in principle a uniform wage.

4. *Social synthetic approach* maintains that a wage is just if it shifts to labor a portion of employer's aggregate surplus revenue without violating the actual social limit of profitability. Here again is social justice. In the past, von Thunen came close to this standpoint.

Such an approach, however, can be logically criticized by an economist who represents the functional standpoint for two reasons :

(a) The surplus revenue of a firm should be considered, according to the latter school, as a 'functional' that is, as a really earned remuneration for the services of an entrepreneur as such. Of course not every representative of the functional approach will insist upon such a criticism because some among them stress the accidental character of profits.

(b) Under normal capitalistic conditions, any artificial increase in real wages which raises the market wage over genuine normal wage implies an institutional interference on behalf of the state or the powerful labor unions—which is incompatible with the personal freedom of a dynamic entrepreneur.

The first criticism is irrelevant since it is highly controversial. The second criticism is, however, serious because there is no doubt that the above mentioned policy will restrict individualism and thus may hurt private initiative.

The question of which approach is objectively better cannot be answered in a uniform way because it depends upon what kind of justice is sought. So, for instance, a Marxian economist who aims at a distributive (in part a holistic) justice, will necessarily disagree with a liberal economist looking for a functional, or rather a purely economic justice. Besides, both of them cannot be in sympathy with an ethical social justice which they will scorn as a purely sentimental goal.

If capitalism is to be preserved one must choose between functional and synthetic approaches. The latter standpoint is

better because it observes social justice and thus realizes the fact that today wage formation cannot be divorced from very serious sociological problems which are virtually neglected by the functional approach. Perhaps J. B. Clark could 'afford' such a standpoint in his less stormy epoch when labor was less organized and was satisfied with a more modest standard of living.

Besides, any present free economy represents a "welfare-capitalism" and thus cannot be based on commutative (*i.e.*, a purely economic justice) which is congenial to the now extinct "laisses faire" capitalism.

CHAPTER XV

NATURAL RESOURCES AND THE RENT OF LAND

The concept of land can be reduced to the following main propositions :

1. Land as a factor of production (land in the broad sense) is all the natural resources used in the process of production. Land as "external nature" is an original primary productive agent and a very important source of surplus product in the strict sense.

2. Land in a narrow sense represents the original indestructible powers of the soil as well as the external irremovable conditions. The stable qualities of the soil and of its immediate environment can be defined as "natural land", in Cassel's terminology. On the other hand, land in "the ordinary" sense is a mixed phenomenon which combines natural land with man-made productive elements.

3. Since land in the narrow sense is not a man-made factor of production, it has some peculiar characteristics that grow out of its highly natural state. Therefore, it should not be confused with man-made capital.

4. The market value of land in the strict sense is its pure rent capitalized. Like any other natural resource, land is a free gift of nature so that in the last analysis its scarcity is fixed by nature and not by man.

5. Land in the ordinary sense can be a consumer's, not a producer's good, as for instance, when it is used for non-acquisitive gardening or as a site for dwelling houses.

According to the definition, land in the broad sense (natural resources) helps man to produce economic goods of every kind. All the different natural resources, in spite of their extreme variety, have some characteristic traits in common. They are limited in amount by nature and often are spatially immobile. They are not man-made goods but are free gifts of nature and hence in principle, non-reproducible. Yet, natural resources can be reproduced in the sense that man, by reawakening them, continuously reclaims some analogous species from nature or provokes the highly productive biological process of metamorphosis which yields a new surplus product of the same kind.

The natural resources as land in the broad sense can be subdivided as follows :

1. All original non-human sources of energy, such as power of the soil used for agriculture and forestry, water power, wind, rays of the sun, even rainfall, temperature, humidity, etc.

2. Standing room or location. In this sense land may be used as a site for non-agricultural productive enterprises, for instance.

3. Natural materials, such as mineral deposits, including the minerals of the sea, for instance, soda, magnesium and other kinds of natural raw materials, like wood, flax, cotton, etc. Such materials in principle and in their raw form are free gifts of nature. Yet, they represent a peculiar phenomenon since they are non-durable goods. In real life, they appear as "man-touched" capital goods.

Quite a few natural resources are very complex or mixed. For instance, air which is an economic good only under exceptional conditions, such as oxygen in a coal mine or in an airplane, functions simultaneously as non-human energy used for the production of material goods, (for example, windmills or steel production where an air blast is essential) and also as standing room of a peculiar nature. Air usually represents a constantly moving medium even when man himself does not change his location.

Our first proposition said that land in the broad sense is productive external nature. This includes any kind of natural resources in juxtaposition to "internal nature" (in particular labor) although usually an economist who speaks of productive external nature means only land in the narrow sense, (*i.e.*, natural soil and non-human energy which is linked with it, such as sun rays, rainfall, etc.) Almost everybody forgets that non-human energy is rationally used in modern manufacturing to a great extent. For instance, the use of a non-human energy like electricity actualizes and transfers water power that is another non-human energy. Another typical example is the rational use of air and the rays of the sun in modern chemistry. Sometimes even the technological productivity of real capital itself can be explained by the fact that without man-made real capital goods, man would be unable to catch and to use non-human energy. Very expensive steam turbines which operate large dynamos that produce currents of electricity can serve as a good example. Quite a few surplus products in any sense are produced only because man can use a natural fuel such as coal. Man's dependence on external nature is especially clear in the process of vegetation where non-human energy is conspicuously essential.

The contention that land in the broad sense is a primary original factor of production is almost uniformly accepted.

However, there are different opinions regarding its functional importance. Adam Smith, in contradistinction to the Physiocrats, maintained that labor takes precedence over nature. What he wanted to say was that natural resources are free gifts of nature, and if there were no private property, labor alone would be an object of economic calculus. In other words, Smith never denied that land in the broad sense is an original productive agent. He only assumed that any natural resource, like air in its normal conditions, could be treated outside of modern property restrictions. However, caution is required in making such a proposition because in real life many natural resources are too scarce to be treated as free gifts (at least in the present stage of development) so that they must be allocated somehow, even in a socialistic economy and thus must be priced. The classical idea that labor has precedence over land is rejected by many economists. In particular, Schumpeter maintains that both original and primary factors of production must be equal, even in a static economy. One can prove this standpoint as follows :

1. Nature without labor is either dormant or chaotic. According to Christian doctrine, God has appointed man as lord (or manager of nature) and has instructed him to subdue it by means of rationalization and spiritualization. Mental and physical human effort is necessary even for picking ripe fruit or for controlling a domesticated animal.

2. Labor without natural resources remains sterile. Man finds in nature the object of his efforts because he is unable to create matter. He can only extract or breed a surplus product in the narrow sense. Besides, he often is limited to producing man-made utilities such as new form utilities. It is also evident that some free gifts of nature, like air or water, are simply indispensable for a human being, as in the case of a diver who collects pearls below sea level or a miner in a coal pit.

The second proposition of the main scheme under discussion is borrowed from Ricardo. It remains somewhat controversial because some modern economists contend that there is no indestructible property of land except standing room. However, the idea that soil is a complex phenomenon which is partly composed of indestructible original forces is strongly advocated by Cassel.

Under modern conditions the soil has the following three qualities :

1. *Perishable qualities* : When the soil is put to normal use, these qualities can be maintained only by replacement. Consequently, they are lost if no manure is applied intentionally. These qualities of the soil are exhausted just like minerals which

are found in the ground. Yet this will be conspicuous only if the qualities that are exhausted belong to virgin soil. Otherwise, fertilizer which can be a natural resource itself (fish, sulphur, potash) is in a sense substituted for them. Since such fertilizer already bears some man-made utilities such as space utility, it is permissible to say that the perishable qualities of the soil are virtually replaced by circulating real capital goods. However, the question whether the exhaustible qualities of the soil should be identified with circulating real capital goods is a complex problem. It will be answered affirmatively only if they are reconstructed by a man-touched natural resource such as fertilizer which is rationally used. This certainly is the normal case today. However, the question must be answered negatively if the manuring is a natural process as is typical of a primitive pastoral economy.

2. *Relatively durable qualities of the soil* : These can be maintained through constant productive effort when durable artificial conditions are created. For instance, a field may cease to be productive unless it is protected by a fence or a dike. In this case the qualities of the soil are closely linked with fixed real capital.

3. *Original qualities of the soil which are not exhausted in its normal use*. Such qualities always are active provided that man does not disturb them artificially. Therefore, they are defined as self-restoring forces of the soil.

There are two factors which enable the soil to possess some indestructible forces :

1. *The soil is spatially immobile*. For this reason, a piece of land not only represents standing room but also possesses some fixed properties which are dependent upon its location, as for instance, the conformation of the soil itself. It is evident that a steep hill-side is not equal to a plain in fertility. Climate also influences the productivity of the soil. Consequently by "natural land" one should understand also its particular qualities in the sense of external irremovable conditions which affect the soil's physical productivity.

2. Marshall says that the inherent properties of the soil include any quality which it derives from nature and not from human action. The famous German agricultural chemist, Liebig, has proved that any soil which is naturally fertile possesses inherent minimum forces that he defines as a "self-restoring equilibrium". This is the reason that even ancient Greece used fallowing, that is ploughing of land without seeding so that the previously exhausted soil could rest for one year and recover its natural productive capacity.

Modern cultivation of the soil based on rotation makes the original indestructible forces of the natural land less conspicuous. In the past, however, fallowing stressed the existence of such forces since it permitted each piece of land to rest and thus to recover automatically every second or third year its exhausted but in principle, eternal productive forces. Since this process makes the piece of land idle for one year, fallowing is undesirable from an acquisitive standpoint. The modern process of rotation which uses a plant as rotator, (e.g. turnip or clover) every second year, produces human food and animal fodder in alternate years and thus eliminates fallowing. In such a case the piece of land does not rest any longer so that man renders the "self-restoring equilibrium" of the soil ineffective. The growing rotators build up the soil's nitrates and clear it of weeds.

Natural land is represented not only by these eternal self-restoring forces of the soil which can be rendered ineffective by means of rotation, but also by the 'external irremovable conditions' that are organically linked with the soil, such as moisture, the rays of the sun, etc. In this case man sometimes tries to control the natural land because he hates the restriction of the natural limitations. Nevertheless, man's power over the external irremovable conditions remains limited. For instance, he can flatten a hill or change the climate slightly by developing forestation or, on the contrary, by cutting down woods. Such exceptional and expensive cases are so rare, however, that one can hardly say that man is able to render ineffective or to change drastically the external natural conditions which so far remain in principle 'irremovable'. Yet, man's power over nature gradually will increase in this field too.

Only by recognising the fact that land in the strict sense has some original and permanent qualities can one consider it as a category by itself. This implies that the soil has special typical traits. The following additional scheme of propositions clarifies the economic characteristics of land in such a narrow sense:

1. Land is naturally limited in supply. Man can increase its supply comparatively little and very slowly. This is true even of the whole surface of the world.

2. One can rarely find two pieces of land exactly alike in contradistinction to man-made goods. There is an almost infinite number of grades of land due to differences in natural fertility, length of growing seasons, etc. Nature has set sharp limits to what man can do to change the grades of natural land because external irremovable conditions limit his efforts.

3. Land is more durable than any man-made durable good. While the fertility of land may be taken away by erosion

through washing, winds, or bad cropping methods, nature itself helps to restore it. Therefore, if land is properly cultivated and protected, there is no need for the owner to set aside a depreciation fund to keep it in repair. In other words, natural land as a self-restoring free gift of nature does not need to be written off.

4. Land is fixed in location so that it must be used where it has been built up by nature. In other words, it is physically immobile. Its mobility can be purely economic or institutional in the sense that it can be put to different uses or assigned to a new cultivator.

5. Land is very sensitive to the law of diminishing returns which was first developed still by Turgot. Beyond a dynamic point defined as the 'point of indifference' *sui generis*, the application of additional units of labor and capital to a piece of land brings negative net returns per unit of capital and labor applied. In this case, it would be necessary to include more land, that is, to use more extensive cultivation since the marginal productivity of land is high. When population and real capital grow, land is under constant pressure of the law of diminishing returns (as applied to labor and capital) unless there is a parallel and radical improvement of agricultural techniques that would artificially decrease the natural scarcity of land such as a method which makes weeds less numerous and less recurrent. This is also true of fishing grounds. The destruction of water-lilies at least increases the 'living space' of fish. Consequently, it would be profitable to take such a measure unless the substitution of edible green frogs is preferred as sometimes happens in Southern Europe.

The result of the law of diminishing returns is that normally the degree of cultivation to which the piece of land can be subjected is limited, at least from an acquisitive viewpoint. Marshall maintains that diminishing returns caused by relative scarcity of land were the cause of Abraham's parting from Lot and of the migrations told in history. The law of diminishing returns in respect to land was discovered before the marginal productivity theory was developed by von Thunen because the amount of land under cultivation was assumed to be stable in principle but not variable. In addition the gradual exhaustion of the soil was conspicuous.

The principle of diminishing returns to land can be reduced to the following main propositions:

1. One never can avoid the functioning of the principle of diminishing returns because it is of a permanent physical nature. It can be only mitigated or halted by some improvements in agricultural technique. Just in this case one can well use

the famous dictum of Walter Zucken that a norm which is always true is not always actual.

2. If this law did not exist the degree of intensification of cultivation of any piece of land would have no limits because the process of substitution in disfavor of land could be carried out in an unlimited way. If an individual farmer invented such a device he would be able to attract a considerable portion of the regional agricultural production to his own piece of land. On the other hand, if one wanted to increase the world production of agricultural products in an unlimited way, this would be impossible (at least at present even under the above assumption) because the amount of complementary real capital goods would become insufficient. Such man-made productive agents cannot be produced infinitely since their production depends ultimately upon saving and upon the already existing real capital. The principle of diminishing returns is a serious law, however. Still von Thunen indicated that if one wanted to increase agricultural output by equal arithmetic amounts it would be necessary to increase the supply of capital and labor in a geometric ratio. In other words, the effectiveness of the input of capital and labor decreases more than proportionately. This idea of von Thunen was elaborated by W. Mitscherlich who defined it as the 'law of the soil'. Paul Douglas says correctly that this law reminds us of the so-called Weber-Fechner law of physiological response. The ratio between input and output defined at present by the clumsy term 'production function' is of a major importance for the theory of land.

A scheme which confirms the contention that land in the broad sense differs from capital is composed of the following propositions :

1. Even when a major portion of the land is man-made, it should not be identified with real capital because no land can entirely lose the original self-restoring forces of the soil. In addition, the irremovable conditions, likewise, cannot be completely changed.

2. Natural materials like natural land are free gifts of nature. They do not represent in principle a portion of man-made real capital. If, however, in real life such materials are treated as a part of circulating real capital, this should be explained by the fact that they usually bear quite a few man-made utilities since they are used as 'man-touched' natural resources.

3. Real capital as a man-made productive agent is scarce. On the other hand, land that is limited by nature remained relatively abundant during long ages. Even in an old country before land becomes fully occupied in productive uses, it is available as

a distinct 'commodity element', Only a few categories of land like vine-yards, for example, are virtually scarce at any time.

4. When a durable man-made good is produced, the respective production can be developed on a large scale and sometimes at decreasing costs. On the other hand, a normal moderate increase in the supply of natural land can be brought about only at increasing costs. There are two reasons for this:

a. Every extension of the cultivated area in a settled country normally means that less fertile land is being taken into exploitation. Ricardo maintained that in an older country the cultivation of land gradually is extended to the soil which is less productive for natural or institutional reasons, as for instance, aridity and poor means of transportation. Henry Carey's argument against Ricardo holds true only in a young country, especially a colony where immigrants start to cultivate less fertile soil, provided of course that it is less dangerously located near the seashore. Also, the improvement of transportation in a young country usually means that new more fertile areas are gradually brought into cultivation.

(b) Any intensive cultivation of the soil or its "deepening" is subject to the law of diminishing returns.

5. Some natural resources which remain free, such as air or are not sufficiently scarce, as for instance, marginal iron ore, do not bear in principle any price at all. Yet, Cassel is right when he says that in real life the supply of natural land which has no cost is sometimes partly determined by the costs of another good and thus is priced. Land in the "ordinary" sense (*i.e.*, soil whose components are in a large measure capital) may compete with the virgin soil and since such a soil is largely "man-made" it has its own costs. When the demand for a certain grade of a natural virgin land rises for an agricultural purpose, the supply of the homogeneous substitutive man-touched soil increases since it is taken away from another use. This affects the estimation of the virgin land which begins to be treated as an economic good. Consequently, the supply of natural land usually is distinctly influenced by the real costs of the respective competing land of mixed character.

6. Since the land as natural soil and as standing room has no cost of production, it ultimately is valuable only because there is a demand for it on account of its eventual products or services. For this reason, the rise of its capital value will often represent unearned increment. However, such an appreciation of the land will be really unearned only if it cannot be attributed to any special effort on the part of its owner but is due to general social causes which increase demand, like the growth of population, desire

for an inflation-proof investment, growth of average wealth, etc. Yet, one must be cautious in making such a judgement because in real life an increase in the market value of land is frequently foreseen and neutralized. When someone purchases land, he often pays a higher price for it than for other property with similar prospective annual earning power. Consequently, the increment which will be brought about some day when rent rises will not be an unearned increment for the new owner of the land since he has already paid for it. Should he resell the land when the expectations are unfavorable, he may even suffer a loss.

The proposition that land and especially natural land should not be confused with real capital is shared by quite a few influential modern economists, such as, Marshall, Cassel, von Wieser, Schumpeter, Wicksell, etc. In contradistinction to them, some older economists like Henry Carey and Frederick Bastiat, make no distinction between any kind of land and real capital. In particular, Carey maintained that land is a dormant and thus an unproductive force as long as it remains unchanged by man. Should it be cultivated it will represent a stock of stored human efforts. Being an extreme optimist, Carey denied that land is subjected to the law of diminishing returns. He insisted that this principle is upset by continuous improvements in agricultural technique.

The teaching of Carey and Bastiat can be easily refuted by the following criticism :

1. Under modern conditions a piece of natural land which is untouched by man is not a "latent resource" (to use von Wieser's terminology) but a "commodity element" which is known, appraised and at man's will can be brought into cultivation as soon as the necessary real capital becomes available and the demand for that grade of land makes it possible. One cannot say that a piece of land is but "stored labor" because it always retains in principle the original indestructible productive power of the soil.

2. The law of diminishing returns can never be abolished by man. When a new better agricultural technique is introduced, this law is only rendered ineffective. As soon as the soil adjusts itself to the new technique, the law of diminishing returns reappears but can be made inefficient by a new innovation and so on.

Since Carey and Bastiat were apostles of the rising liberalism and industrial capitalism, they had a tendency to neglect external nature and to over-emphasize man's own potentialities.

However, there are some modern economists, for instance, Liefmann and Fred Yoder who likewise over-estimate man's power over nature and thus identify natural land with real capital.

Their standpoint can be reduced to the following three propositions :

1. The purchase of natural land for productive purposes is an investment as truly as the purchase of man-made real capital goods.

2. Land, like man-made real capital, is subject to the processes of diminishing returns and substitution.

3. There is a production of natural land because the available supply of it can be intentionally increased. In particular, in old countries, the natural and artificial aspects of land have become so fused that it is impossible to distinguish between them. For instance, in England, four fifths of the value of the long cultivated estates are artificial. Furthermore, since at present farmers are more scientific in their treatment of the soil, crop rotation and storage, small land holdings also take on a more artificial nature. Durable improvements of the land become inseparable from the soil itself. When a farm is sold the land includes the fences, buildings and other installations which are considered as essentially a part of the land itself.

The first proposition of this scheme does not establish a proof. It simply refers to the capitalistic money exchange economy in which any economic good including natural resources can be an object of an acquisitive investment and thus may incorporate a portion of formal capital. This does not imply, however, that under capitalistic conditions a piece of land is necessarily a portion of real capital because it can become an object of investment in one of the two following ways :

1. *As an item of man's real wealth.* In this case, it may assume the character of a latent investment which does not yield any revenue and thus is not connected with capital. Such land normally will be virgin natural land. Also, ordinary land which is of mixed character may eventually appear as a portion of non-remunerative assets, for instance, as an inflation-proof durable good or as a durable consumption good used for pleasure. On the other hand, it would make no sense to keep a machine as a passive investment.

2. *It can embody a portion of formal capital.* In such a case, the piece of land will be drawn into the process of acquisition and will assume a mixed character because artificial fertilizers will be used, fences will be constructed for its protection, etc. The piece of land will function as a real capital good but only because it will become a "man-touched" natural resource. Such a piece of land will represent a distinct active investment.

The second proposition stressed by Liefmann is not consistent because labor is like wise subject to the processes of diminish-

ing returns and substitution ; yet, this fact does not transform it into real capital so that there is no reason to make such an assumption regarding land.

Far more serious is the last proposition emphasized by Yoder which likewise should be refuted.

The question arises, what is understood by the production of land. An adequate reply to this question results from developing the following sequence of propositions :

1. In an old country where land is fully occupied, its stock at any time is the stock for all time. When a cultivator or a manufacturer decides to take in a little more land to his business, he takes it away from someone else. Consequently, the national economy as a whole does not increase its stock of land. If the land is fully occupied (in the sense of productive use) any piece of land can change its owner and perhaps the character of its productive use or even sometimes the degree of its productivity ; the entire standing room, however, will remain the same. This implies that in such a case output can be expanded only by using other factors in greater amounts so that the productivity of the soil will be increased exclusively under conditions of diminishing returns. Consequently, in an old country, there normally is no production of land in the narrow sense.

2. With regard to natural land in a new country, the word "production" can be used but with extreme caution and in a peculiar sense :

(a) As soon as the price offered for a particular quality of the soil is sufficiently high, the supply of that land will be increased. This means that more land is brought into cultivation. However, the process of bringing a piece of land into cultivation can hardly be identified with producing a new net surplus product as is the case when a new piece of iron ore is mined. There will be simply a transformation of an available potentially productive "commodity element" (*i.e.*, not of an implicitly passive natural resource) into a genuine commodity. In other words, an extracted piece of iron ore bears only passive original utility which man has to modify in single handed way while a piece of natural land that is brought into cultivation assists man by means of its original productive forces. Thus, any piece of land which is brought into cultivation represents a newly actualized productive power. If this land itself enters the market for the first time, it should be considered as a new surplus product in the broad sense.

(b) When transportation facilities are extended, the supply of land increases because new agricultural areas are opened. Yet, here again no new standing room is produced but only a potentially and originally productive commodity element is

transformed into a commodity. Until this time the necessary real capital was lacking. The same is true of the use of deeper layers of the soil or of an artificial increase in its fertility : namely, the natural productive qualities of the land were known before but the complementary factors of production, in particular capital, were lacking.

(c) When land is reclaimed from the sea, as in Holland or an original barren land is made fertile through irrigation, as in the Near East, the production of land is distinct. Here again some natural qualities of the soil or of its natural environment were awakened but this time in so radical a way that the new land can be considered as a genuine net surplus product which evidently represents at once a "man-touched" natural resource.

(d) Also, stones can be made productive by putting fertile soil on them. In this case again, there is new land as a net surplus product because a cultivation area was created. In addition, some other natural resources like local rainfall, even atmosphere were drawn into the productive process in a large area. In both cases, however, natural land of any kind must be fertile by itself which implies that the production of natural land never can be identified with that of a man-made good.

3. When land owes most of its fertility to highly artificial man-made improvements, there is not only an awakening of natural land. In such a case, a portion of the so-called ordinary land which is a mixed phenomenon is distinctly produced by man. Usually this pertains to the top layer of the soil which is replenished when the perishable qualities of the soil are maintained by means of fertilizing. Thus, all such qualities can be considered as a sort of circulating real capital or a short term investment. On the other hand, buildings, fences, etc. represent fixed real capital even if the farmers consider them as a part of land since it is practically impossible to sell them separately. No natural land is awakened under such conditions but only a long term investment linked with this land is made by the cultivator.

Our conclusion is that natural land never can be truly produced by man at least on considerable scale because it can only be reclaimed from nature as a fertile area or harnessed as an "irremovable condition" and finally (under special circumstances) can be transplanted in order to create a new cultivated area. In all such cases, some indestructible forces of the soil and some natural irremovable conditions must be present. Otherwise, the "production" of land would be nonsensical. One can produce a piece of land literally only on a small non-commercial scale when the piece of originally barren but artificially fertilized land is put into a "man-improved" atmosphere so that the whole environ-

ment, including heat and light is artificially created. Here natural land will be a real capital good but of no major practical importance.

The fourth proposition of our main scheme pertaining to land in a broad sense says that the market value of natural land is its pure rent capitalized. The reasons for this are the following :

1. Natural land is a distinct free gift of nature. Consequently, it is not only a durable but also a non-reproducible good. Hence, it has no cost of reproduction and in principle can be sold only in conformity with its probable or actual earning power. The same is true also of any other good of this kind, as, for instance, meteoric stone that is used for cutting diamonds. Also in this case, one capitalizes annual actual pure rent of the free gift of nature (usually an average for a certain number of years) at the current market rate of interest.

2. Real capital is relatively scarce in real life but theoretically, *i.e.*, in the last analysis man can increase its supply by means of his free will. On the other hand, natural land is often relatively abundant in reality but in principle (*i.e.*, ultimately) scarce because its supply is naturally limited so that its valuation is in contradistinction to that of real capital goods in principle divorced from the problem of cost-formation.

3. Man-touched natural materials, like coal or iron ore, are non-durable goods and thus their pricing must be entirely different. If, however, a mine is treated as a business concern, that is, as an entity, it is normally sold at its capitalized probable or actual net revenue, although in this case the problem of cost formation is not irrelevant unless the mine still is in a "virgin state".

One must make a distinction between "*economic capacity*" of land which is measured in terms of physical output under intensive methods (for instance so many bushels of corn as a return per acre) and its "*economic efficiency*" which is determined in conformity with its money net revenue per unit of output, for instance, so many dollars for one bushel. There still is, however, an "*economic productivity*" of the land that is the total net return, which is decisive when a piece of productive land is bought and which depends upon land's economic capacity and efficiency. Assume that someone has a choice of buying two 160 acre tracts of land ; the aggregate economic capacity of one is 3,200 bushel of wheat ; the capacity of the other, 2,400 bushels. Yet, the economic efficiency of the first is 40 cents a bushel and of the second 60 cents. This means that the economic productivity of the first farm is \$1,280 and of the second \$1,440. Consequently, he will purchase the second tract of land on account of its higher

economic efficiency, although its economic capacity is lower. Such a procedure would be congenial to acquisitive behavior.

RENT OF LAND

The discussion of the rent of land may be developed in the following main scheme of propositions :

1. Rent in the most general sense is the price charged for the use of a durable good while the rent of land (*i.e.*, rent proper) is the price paid for the services of natural land.

2. Absolute rent of land is a pure scarcity rent. It is normally a component of the price of an agricultural product and is yielded even by the marginal land.

3. When the land has different grades of fertility or a different location, a differential rent appears which is defined as horizontal rent. On the other hand, the law of diminishing returns causes the appearance of a vertical differential rent.

4. If a certain grade of land can be used for different purposes, an intra-industrial rent may arise. Such a rent is caused by the fact that the land of multiple uses can be put to a more profitable use by a progressive tenant although he pays the same "opportunity rental" as his competitors.

5. Economic rent is payment for the services of the natural land. It can be defined as an "implicit" rent since it is received by any non-marginal land-owner even if he cultivates his own land. Economic rent is a "basic" rent from which deviates the contractual rent paid by the tenants.

In this scheme the term rent sometimes is used in a sense other than that used in price and wage theory where it refers to a surplus remuneration that is unnecessary for bringing about the supply of the good, in particular the services of a primary productive agent. If, for instance, a man would work for \$50 a week, but because of a labor union he receives \$70 a week, his job is assumed to yield him \$20 a week as institutionally protected rent.

The first item of the above scheme can be sub-divided into the following propositions :

1. A leased durable man-made good such as a machine or boat yields a capital rent. If one pays for the use of land which contains mineral, one practically pays for using up the peculiar elements of the land so that the price which is paid in this case is called a "royalty" rather than a rent and usually depends on the quality as well as on the accessibility of the mineral.

2. If a durable man-made good is organically linked with land, as for instance, a building on a farm, it yields a mixed rent which combines capital rent with rent of land. Since natural land in real life is usually linked with some practically inseparable fixed real capital goods so that it is difficult to say exactly what is virtually paid for the use of land as it originally existed, it is evident that the rent of land is seldom absolutely pure.

3. Genuine rent of land (or rent proper) is the payment for the services of natural land which are not dependent upon any man-made element.

There are two theories of absolute rent of land, namely :

1. *Pricing* or the purely economic approach which considers this rent as a non-institutional scarcity phenomenon. This standpoint is advocated by Ricardo, Malthus, John S. Mill, Cassel, Schumpeter, Paul Douglas, etc.

2. *Exploitation theory*, which should be sub-divided as follows :

(a) *Exploitation theory*, in the broad sense which is based on the idea of Adam Smith that a distinction should be made between the absolute rent in the narrow and in the broad sense. This approach is shared by some representatives of the pricing theory.

(b) *Class monopoly theory* which stresses that absolute rent never arises spontaneously as a pure economic phenomenon. This theory has a sociological foundation. In its purest form, it was developed by Gustav Schmoller and by Henry George. On the other hand, Karl Marx was much influenced by Smith's idea of an absolute rent in the broad sense, while the modern Neo-socialists, especially their leader Franz Oppenheimer, come very close to Marx in many respects.

The pricing theory of absolute rent which is predominant can be reduced to the following propositions :

1. Absolute rent results from the scarcity of the available land (fertility and location are disregarded). This rent appears when natural land is so scarce that even the marginal land yields a surplus over the cultivator's objectively normal rate of interest and wages of management. A similar case takes place in respect to natural materials because one can put a price, for instance, on a marginal iron ore only if there is a distinct shortage of ore. However, there is a difference : the absolute rent of land is a price paid for the services of natural land while here a price is paid for the appropriation of a natural material that is a free gift of nature but a non-durable good.

2. Absolute rent is not a residual but a component of the price of any agricultural product. There is a natural monopoly in favor of all landowners since all land is fully occupied and becomes scarce. Simultaneously there is a hidden institutional enforcement of such a rent. Yet, absolute rent of land is ultimately a purely economic phenomenon.

3. The absolute rent which is typical of any old country with a dense population is especially favored by the efficacy of King's law which maintains that when the growth of an agricultural staple product decreases per head of population in arithmetical progression, the price of this product rises in geometrical progression. Consequently, the marginal land may have no difficulty in getting a surplus over the costs of production of its produce, including the objectively normal net revenue, if there is a relative shortage of the essential agricultural products.

4. Absolute rent is usually horizontal because any tract of cultivated-land yields it ; it will, however, appear as a vertical rent if it is eventually yielded by the marginal expenditure input on the same soil-which however can be hardly expected since it presupposes an agreement between agricultural producers, that curtails production.

Marginal land in principle yields no rent and only repays the expenses of the cultivator, including interest on his own investments and the objectively normal wage of management. Should it, however, yield a certain rent, this revenue will be an absolute rent, that is a rent of scarcity.

The pricing theory of the absolute rent of land implies several assumptions ; otherwise, it will not be valid.

1. The entire arable land is fully occupied for productive uses and its supply cannot be increased at least in the calculable future. In particular, land which is used like a durable consumption good cannot be converted into arable land. In other words, the people will not agree to till land used for non-acquisitive purposes such as private gardens and parks in towns.

2. Aggregate effective demand for agricultural products is very intensive, highly inelastic and increases with the growing population. Agricultural imports do not take place or at least exercise no influence upon the available supply of agricultural products in the country.

3. There is a lack of capital, so that the country will not use it for further intensification of agriculture but will employ available scarce funds for other purposes.

Adam Smith had no clear-cut theory of rent ; yet he exercised great influence upon the theory of absolute rent by making

a distinction between the two following kinds received by a land-owner :

1. Absolute rent in the *broad* sense, which is a deduction from the natural remuneration of the cultivator of the soil who does not own the piece of land. By such a remuneration, Adam Smith understood the objectively normal interest on the cultivator's own investment plus a similar wage of management. In other words, the distinct scarcity of land may enable any land-owner to appropriate at least a portion of the tenant's objectively normal net revenue. If every manufacturer were able to hold the market wage below the genuine normal wage, he would have a revenue somewhat akin to such an absolute rent of land. Thus, the rent theory of Adam Smith prepared for the later development of the related Marxian views. Here absolute rent is not assumed to be a component of price since it is borne by the tenant.

2. Absolute rent in the *narrow* sense. Such a rent emerges as an addition to the objectively normal price in a usual sense and is forced upon the consumers of the agricultural product. Since this rent is a non-residual component of the price even the actual marginal land yields it. Competition among the cultivators of the soil enables land-owners to appropriate such a surplus over the tenant's objectively normal net revenue. Even in this case the approach of Adam Smith has an ethical tinge because he does not stress the fact that such a rent of land is logical and unavoidable when the population grows faster than an increase in the supply of the cultivated land or of its produce, as did Malthus.

Daniel Buchanan contends that the absolute rent of land in the narrow sense appears in Adam Smith's theory only when the piece of land has an alternative use. This is incorrect since absolute rent is pure scarcity rent of land, it can emerge also when no alternative is given. So, for instance, if for climatic reasons an isolated and densely populated region can produce only rye and potatoes while there is no effective demand for the latter product but a very intensive demand for rye, the absolute rent of land in the narrow sense will be borne by the price of rye simply because arable land is too scarce.

The Neo Socialistic exploitation theory of rent of land promoted by Franz Oppenheimer is in a sense derived from that of Marx. This theory can be reduced to the following propositions :

1. The absolute rent of land is the largest share in the total "more-value" (in the Marxian sense) which is received by the capitalists of any kind from the workers treated as an entity.

2. There are two different cases of "*class monopoly*" based

on private property and supported by the state that represents a "political means", namely :

(a) Primary class monopoly or landed property which withholds the land from the people who want to cultivate it.

(b) Secondary (or derived) class monopoly, *i.e.*, the private property based on the man-made producers' goods. This kind of property is possible only because industry gets as workers the impoverished peasants who are treated like "marginal coolies".

It is evident that Oppenheimer, develops a theory of the absolute rent of land in the broad sense which is distinctly Marxian. The only difference is that he does not assume that each dependent cultivator of the soil is exploited individually. Furthermore, Oppenheimer expects the end of "economic exploitation" as soon as the acquisitive landed property is abolished and there are no longer poor farmhands. This position is rather distinct exaggeration and was duly criticized by Charles Gide who does not believe that a chance of getting a piece of land gratis could remove poverty and unemployment. He gave the following reasons :,

1. A Proletarian has no capital that is necessary for cultivating the soil.

2. Since the soil does not produce during the whole year, a stock of means of subsistence or a part time job should be present.

3. One must be an experienced and interested agriculturist in order to live on the fruits of the soil. Also, agricultural work requires a high degree of physical strength and endurance.

There is a great difference between absolute rent with a somewhat monopolistic tinge analyzed by the pricing approach and a pure monopoly rent which is described by each non-Smithian exploitation theory because this latter rent arises artificially while the ordinary absolute rent emerges spontaneously when the entire land is fully occupied and is used productively. Schmoller, Gossen and other advocates of the extreme version of the monopoly theory assume that a comparatively small group of strong non-competing landowners possesses the entire cultivated area, that is, all the tracts of land of any quality and location and prevents production of any major substitute. Should something like this happen, there will be an institutionally enforced absolute monopoly rent of land. On the other hand, an ordinary purely economic absolute rent will arise when the increase in demand for agricultural products has such range and tempo that even a theoretical chance of shortly increasing the cultivated area cannot upset the actual shortage of land as a productive agent. Here there will be no "collusion" by landowners at all.

The question whether an ordinary absolute rent of land is a frequent or a rare phenomenon still remains controversial. In the opinion of this author in real life the absolute rent of land (as a scarcity phenomenon) is rather unavoidable in at least the two following cases :

1. In a small densely populated old country, like Belgium, Greece, Puerto Rico, etc., land is so scarce, and is so fully occupied for productive purposes that the appearance of a genuine absolute rent is likely, unless imports change the normal situation.

2. If there is a densely populated district, such as an agricultural non-competing area, where every piece of land is owned by somebody and is productively used, a new farmer immigrant can rent a tract of land only if he pays for the use of natural land regardless of its quality and location. If the newcomer acts as a marginal producer whose products are really needed by the community, he will be able to sell his products at a higher price containing an absolute rent in the narrow sense which he will have to cede to his landlord. However, this can occur only if the demand for the products is highly inelastic within the isolated community. Otherwise, the new farmer will have to cover his payment of rent out of wages of management and normally will be forced to give up his business in the long run. Consequently, in this case, for a short duration only there will be an absolute rent in the broad sense because the marginal landowner was able to secure a rent but the marginal producer could not shift it to the consumers. Professor Brij Narain of Lahore confirms this opinion showing that an Indian peasant of Punjab pays a rent of land out of his objectively normal wages of management so that he is a distinct submarginal cultivator of the soil.

In summarizing, the theory of absolute rent, this rent of land can appear in the three following ways :

1. As a spontaneous scarcity rent which is a natural function of demand versus an artificial scarcity rent that is provoked institutionally.

2. As a horizontal rent yielded by the marginal piece of land versus an eventual vertical rent yielded by the marginal layer of natural land or by the marginal expenditure on the same land. Consequently, absolute rent of land is in principle a "total rent" in von Stackelberg's terminology.

3. As an absolute rent in the narrow sense which is a constituent of the price of the agricultural product produced by the marginal land versus an absolute rent in the broad sense which is paid to the marginal landowner out of the tenant's objectively normal net revenue. In all these cases, absolute rent of land is ultimately a scarcity phenomenon.

The theory of *differential rent* of land elaborated by Ricardo can be traced back to Adam Smith who first declared that rent of land often does not enter into the determination of price at all but is an effect of it. The differential rent of land will appear as a horizontal rent when there is a difference between the net revenue obtained from the sale of the products produced on the piece of land while using the most advantageous combination of labor and capital *and* the net revenue which could be obtained by the use of the same combination of labor and capital on the actual marginal land. Consequently, two following closely related conclusions can be made :

1. Horizontal differential rent results from the application of the same amount of capital and labor to two different pieces of land.

2. This kind of differential rent is constituted by the difference in the net revenue obtained by two pieces of land from the sale of the similar agricultural products although their costs of production (in labor and pure capital expenditures) are equal.

There are different reasons for the appearance of a horizontal differential rent, namely :

1. The fertility or quality of a piece of land affects the amount of its physical produce ; it determines how many bushels of wheat or pounds of cotton it will yield from a given input of labor and capital. The land with greater "economic capacity" will bring a higher rent if the principle of uniform price prevails and all other data are equal. This case was first indicated by Anderson and later was made known by Malthus and Ricardo.

2. The fertility of land often determines the quality of the product and thus its price. Here the same amount of a product will be sold at a higher price so that there will be greater "economic efficiency" of the given tract of land. This kind of rent is defined by von Wieser as "quality rent."

3. The location of land affects the net revenue obtained from the sale of its products because the total costs of production rise when the piece of land is not close to the market. This case was explained by Ricardo and von Thunen although it was anticipated earlier by Sir William Petty.

4. If the land is situated in a low wage locality which has an immobile labor supply, it will yield a higher rent than land of equal fertility and equal transportation costs in other localities. Here it is assumed that in the given region the same number of workers is employed as anywhere else but at a lower wage. This case is stressed by Albert Meyers.

Another kind of differential rent of land which is called a vertical rent is that rent which results from any successive expenditure of labor and capital on the same piece of land before the "*point of intensive margin*" is reached. This point is attained when the last unit of labor and capital does add to the total revenue no more than is necessary to pay for the incurred marginal expenses. Here marginal costs are equal to marginal revenue. Consequently, the point of intensive margin coincides with the point of indifference for both variable factors.

Vertical rent of land or "intensity rent" (to use von Wieser's terminology) is yielded also by each successive cultivated layer of the soil above the deepest or marginal layer. This proposition differs from the previous one for two reasons :

1. Here land is not considered as a uniform constant quantity to which the other two primary factors of production are added, so that the "law of non-proportional output" is irrelevant. The land is assumed to be distinctly composed of different consecutive layers.

2. Each layer of the soil is conceived as a natural, not a man-made phenomenon. Those economists who disregard the essence of natural land, do not care for the layers of the soil because a high degree of intensification of land's cultivation by means of capital and labor input is possible without touching a very deep layer. Yet, in reality the upper layers of the soil normally are more fertile since they are exposed to fertilizing or vitalizing exterral irremovable conditions, like sun rays, moisture, decaying plants and in addition may get gratis periodically a natural fertilizer like natural manure in a cattle breeding area, or silt of a river. Thus, normally the upper layers of the soil yield a differential vertical rent of land regardless of capital input. It becomes evident that natural land really yields such a vertical rent when the farmer has to plough deeper and deeper on account of a provisional erosion of the most fertile layers. This rent of land is also conspicuous in the case of naturally terraced vineyards and orchards provided that the highest terrace has enough protection from the winds and thus represents the most fertile location.

Both kinds of differential rent of land appear as a joint phenomenon in real life while the vertical rent precedes. When the best grade of land is fully in use a further increase in the demand for the products of the land will be met first by more intensive cultivation of this best land. Since the law of diminishing returns comes into play a vertical differential rent will arise. Here the price of the product will equal its marginal unit cost which will be greater than the average unit cost. Consequently, only the last unit of outlay will not yield any vertical rent. Should demand

increase still further, the output on the best land will be expanded to such an extent that the rising marginal unit cost on this superior land will become equal to the average unit cost on the next best grade of land. Thus, the somewhat inferior land will be brought into cultivation ; it will be earning no rent with the price equaling its average costs but the best land will begin to yield a horizontal rent since the price of the product will continue to equal its marginal unit cost. If demand for the products rises and increases market price, the increasing marginal unit costs on the two grades of land which are intensively cultivated will become equal to the average costs on a third grade of land that will enter into production as rentless land, and so on.

Some economists say that differential rent of land should be considered as differential rent in the strict sense only when the marginal land does not yield any rent. This is the case meant by Ricardo. Such horizontal rent appears under normal conditions in a young country when the marginal land is not scarce and the actual aggregate effective demand for the agricultural products is not aggressive enough to produce an absolute rent of land as a pure scarcity rent. According to these economists, there will be differential rent in the broad sense if rent is yielded by the marginal land and thus emerges as absolute rent with a differential tinge since the marginal land necessarily yields less rent than any superior grade of land. Here the absolute and differential rents of land coincide. Such a standpoint is controversial, however. In the opinion of the writer both kinds of rent can only be linked with each other but will never represent just the same phenomenon. In other words, to be exact, the absolute rent of land as a distinct payment for the use of a scarce natural land is implicitly uniform and thus cannot as such be differential. If, however, the marginal landowner gets less rent than any owner of superior land this should be attributed to the fact that the marginal land has the worst location (as standing room) or enjoys the comparatively smallest amount of non-human energy (like sun rays, moisture, etc.) which is an external irremovable condition or because its soil produces the poorest quality crop. Marginal land under such conditions will yield a uniform absolute rent but no differential rent whatsoever. On the other hand, any superior land will yield a blending of uniform absolute rent and a horizontal differential rent of a various degree.

The contention of some economists that the marginal land brings a smaller absolute rent because in such a case there is no payment for the use of fixed real capital goods which are inseparable from the soil must also be rejected not only because the marginal land may contain some man-made elements of the above-mentioned kind. The main reason is that absolute rent as a pure scarcity rent means only the payment for the use of the un-

improved natural land even if in practical life it is sometimes impossible to separate from it some man-made improvements of a constant nature.

Cassel said that in contradistinction to absolute rent differential rent of land is a logical category since it exists, at least potentially, also in the economy of Robinson Crusoe. This is particularly true of horizontal rent because even in a primitive agricultural community the natural external irremovable conditions together with the fertility of the soil always tend to create such a rent. This kind of rent would exist even in a stationary economy although it could be artificially obscured if each stationary landowner believes that the rent which he gets is an interest paid on his investment whereby the market value of his land would be so shaped once and for all that he would receive the same percentage as any other landowner. Still from a scientific viewpoint the horizontal differential rent in such a case is only obscured, not even eliminated, because he gets continuous payment for the services of natural land and not for the use of a costly man-made fixed real capital good. Also, a vertical differential rent of land will exist in a stationary economy for natural reasons.

Von Stackelberg says that horizontal differential rent is ultimately caused by the law of diminishing returns because otherwise the production of agricultural goods would be confined to the best grade of land since intensification of land cultivation could be almost unlimited. This natural law is responsible for the appearance of a vertical differential rent which is a distinct "intensity rent". Since differential rent of land is a logical category, it appears also in a barter economy even if it is calculated there in kind.

The differential rent of land is a total rent because it normally is a horizontal and a vertical rent. In addition, it tends to appear in real life as an impure rent since it is blended with a capital rent. Sometimes the differential rent of land is blended also with an absolute rent.

By the marginal land in the strict sense (*i.e.*, by the naturally marginal land), one understands the poorest land for any use. It can be put to one use only and this under the most unfavourable conditions. When such a land is cultivated, there are no alternatives and thus no opportunity costs of an intra-industrial nature. Consequently, genuine marginal land under normal conditions yields no rent so that the use of natural land which serves as standing room remains in this case definitely unpriced. Usually poor grazing land is considered as marginal land in this narrow sense. Otherwise, a piece of land which is too poor to be used, for instance, for market gardening can be a good wheat

land. Even sandy land is usually good for growing melons and sweet potatoes so that not every presumably marginal land is really "marginal".

If the piece of land has several lucrative alternative uses, every tenant who wants to obtain it for any particular use will have to pay a rent that is at least equal to that which the land would earn in the next best alternative use. If, for instance, the tenant cultivates tobacco under the assumption that corn is the next best alternative, he will have to pay at least the rent that is yielded by the land producing corn. If the given grade of land really fits tobacco production but other tenants do not realize this fact and continue to produce corn on the same grade of land, the tenant who makes an innovation, that is, introduces the new crop will enjoy an intra-industrial rent which will be genuine because it will be yielded by a crop superior to the next best alternative. In the example, the superior lucrativeness of tobacco crop is conditioned by the character of the natural land. Such an intra-industrial rent of land has some peculiarities, namely :

1. It is unstable because it will be wiped out as a quasi rent as soon as a possessor of a similar grade of land, somewhere in the neighborhood, starts the production of the most gainful crop. Each competitor will imitate the policy of the progressive tenant at his earliest convenience, if he is a rational economic man.

2. In the beginning the genuine intra-industrial rent represents a blending of horizontal differential rent of land conceived as a peculiar "fertility rent" with profit and later with a quasi-rent. It is evident that an intra-industrial rent is always in part a rent of land. So, in the example, the given grade of land is more fertile if it is used as a tobacco plantation. On the other hand, such a rent is derived also from the cultivator's business ability.

If, in the example, the aggregate effective demand for tobacco rises, it usually will become necessary to draw a part of the given grade of land away from the cultivation of corn so that land for corn cultivation will become scarce and the rent paid for the use of it under corn cultivation will increase. This implies that the cultivator of tobacco will also have to pay a higher rent at least for the additional pieces of land and thus unless there is an increase in the price of tobacco his intra-industrial rent will fall even if his policy is not imitated by other farmers. Should, however, the progressive tenant who started to cultivate the most advantageous crop (tobacco) possess a long term contract granting him at least an option at a fixed price, he will be able to expand the profitable production under comparatively favorable conditions. In other words, a tenant who takes many pieces of land of the given grade and location on a long term lease at a lower opportunity rental enjoys a rent within industry because he can produce his merchan-

dise at a comparatively lower cost than his competitors. In such a case, intra-industrial rent is less unstable because in a sense it is institutionally protected by a contract. Any genuine intra-industrial rent is peculiar inasmuch as it is received by the tenant and is not ceded by him to the landowner at least for a short duration. The reason is that such a rent is in a large measure based on the tenant's business ability or is institutionally protected.

Sometimes the relative scarcity of land in respect to the given crop is not naturally established, that is, is not provoked by the overproportional increase of population or of the normal aggregate effective demand for the respective product but is in a sense artificially introduced and protected. Such a case takes place when, for instance, the land fit for a certain use is assigned to a normally less advantageous task for some institutional reasons and thus high opportunity costs are artificially incurred. Under such conditions, a "derived" intra-industrial rent will emerge. So, for instance, when the piece of land might yield a higher net revenue if used for growing tobacco but for some reasons (*e.g.*, in the case of a major war) is allocated by private initiative to the production of wheat which it fits much less, the price of wheat will have to rise, at least to such an extent that it will cover the rent yielded formerly by the cultivation of tobacco. In such a case, the wheat land will yield an intra-industrial rent in respect to another inferior crop, for instance, potatoes. Such a rent is not only abnormal but also peculiar since it is virtually conditioned not by the next best but by the best alternative, *i.e.*, in a "reverse way".

In principle, any particular rent of land under conditions of free competition is of some importance for the prices of all products which are produced on the same grade of land although the rent yielded by the next best alternative is decisive if the really superior crop is hardly known and there is no considerable imitation of the conduct of the most progressive farmer. Otherwise the rent connected with the best alternative means most. Cassel is right when he stresses that the rent of land conditioned by the fertility of the soil or quality of the product regulates, in principle, the use of the land for different purposes. On the other hand, Daniel Buchanan was wrong when he said that absolute rent conveyed as a component of the price of agricultural products is always caused by the presence of alternative uses, because an absolute rent of land can arise also when the given grade of land has only a single use.

The more numerous alternative uses of the given grade of land there are, the greater is the chance that it will be leased at a higher opportunity rental. Thus, such land is more expensive for a tenant and for this reason one can expect that land of multiple

uses will usually be liable to intensive cultivation. Since some comparatively rare crops can be produced with reasonable facility only on limited areas, these areas have higher rents than other lands, although they can be equally good for an alternative remunerative product. For instance, good wheat land in the citrus growing areas which could be used successfully for the cultivation of oranges and lemons yields a higher rent than the best wheat land in other regions because here the opportunity rental is greater, since the best alternative is represented by valuable products.

Also a comparatively poor land near a large city usually yields a high rent regardless of the cultivated product because its location makes it suitable for growing some valuable perishable food. Here a rent of land is in principle a horizontal differential rent from the standpoint of the cultivated perishable crop, for instance, strawberries. If, the city expands and some tracts of adjacent land are allocated to the production of less valuable staple products which, however, yield a differential horizontal rent caused by lower transportation costs, the local distinct strawberry land may yield in addition an intra-industrial rent which however will have an especially unstable character.

One should make a distinction between intra-industrial rent which depends upon the rent yielded by the next best and frequently by the best alternative use within agriculture, and an *inter-industrial* rent that is determined by the excess of the rent yielded by the best agricultural alternative use over the rent which the land would have yielded if it were employed for the best non-agricultural alternative use, for example, as a factory site, or vice versa. This viewpoint is not universally shared. Some economists broaden the concept of inter-industrial rent since they do not assume that any kind of agricultural use of land takes place within one industry.

The fifth and last proposition of the main scheme pertaining to the rent of land distinguishes between economic or "basic" rent and a variable contractual rent which should be considered as an "impure" (*i.e.*, rather a gross) rent paid by the tenant to his landlord. Thus, the rent of land appears in the two following forms :

1. *Economic rent* which represents rent proper and in principle (even if rather theoretically) is a distinct payment for the use of natural land. It is an implicit rent of land because it is received by any non-marginal landowner even if he cultivates his own piece of land. Consequently, economic rent is not a portion of the objectively normal net revenue unless it represents an absolute rent of land. Normally a marginal farmer does not obtain a rent of land but only an objectively normal rate of interest

on his entire active investment while no portion of formal capital in reality is embodied in his tract of land that serves as a site. If somebody buys a tract of marginal land he pays for some fixed real capital goods that are connected with it or for the right to command over the site which has such a low degree of productivity that it normally is treated as a passive investment. Only when an absolute rent emerges will the land owned by him participate in his objectively normal opportunity costs as a source of revenue. It should be noted that in real life the proper rent normally is a portion of the gross rent paid by the tenant to a non-marginal landowner. In such a case, economic rent from the standpoint of the cultivator is a money cost, while in the case of the cultivation of one's own land, it acts like an opportunity cost because a non-marginal landowner has to take into account the opportunity of getting a certain rent as a payment for the use of natural land if his farm were leased to a tenant.

2. *Contractual rent* paid by a tenant which is a distinct gross rent because it does not represent solely the payment for the use of the natural land although in real life this is hardly understood. Any non-marginal landlord can claim practically more than the proper rent since the land is not a self-directing agent of production. Someone must plan for its use, improve it, and if it is for lease, attend to the business of finding tenants and collecting the rentals. Consequently any gross rent of land in reality contains the landlord's wages of management in a broad sense. This case is very distinct in the south-eastern part of the United States where most landlords supervise the work of share-croppers. Besides, any gross rent contains an interest on the landlord's investment in the fixed real capital goods and very often payment for the social advantages of the farm's location such as proximity of a church, of a school, good roads, pleasant neighborhood, etc. The contractual rent of land oscillates (in a sense) around the actual economic rent, like around an abnormal minimum level. It is evident that a gross rent normally cannot equal the actual proper rent because it necessarily contains some items which are alien to the latter rent.

In a short run, when the landowner is willing or forced to disregard the fact that he does not get any wages of management in a broad sense and any payment for the use of his long term investments, both kinds of rent may be equal. Still the contractual rent will never come very close to the actual implicit rent for a long duration because under such conditions the landlord may prefer to cultivate the land himself. Such action will make land available for lease more scarce and thus will raise the contractual rent. On the other hand, it is more frequent that the contractual rent rises abnormally over the actual economic rent because the tenants may lack opportunity to change their profession or may be

reluctant to leave their native district or may expect a rise in the prices of agricultural products in the near future. Should this happen the tenant will be unable to make a normal return.

Marginal productivity principle as applied to land has some peculiarities, namely :

1. The doctrine of marginal productivity normally means that the primary factor of production is (in principle) remunerated with regard to its normal marginal net revenue. In other words, even a marginal firm (or farm) is guided by the value productivity of the normal marginal unit of labor and capital when it remunerates their services. On the other hand, really marginal natural land possessed by a marginal farm and treated as a distinct free gift of nature which hardly is productive does not normally enter economic calculus so that the marginal farm cannot yield an economic rent. If it is leased, its owner may get only something for the use of his long term investments *i.e.*, only capital rent. This implies that the marginal farm takes only the input of labor and capital into the economic calculus unless an absolute rent of land emerges and the marginal landowner becomes able to request a payment for the use of his natural land.

A marginal farm in the strict sense is a farm which cannot get an intra-industrial rent because its land is unfavorable for each crop. Any marginal farm normally is little interested in the marginal productivity principle as applied to land since its natural land stays in employment without any remuneration and thus is indifferent to the economic calculus. Each other farm, however, under all conditions cares for this principle also with regard to the cultivated natural land.

2. The principle of marginal productivity applied to land appears in economic theory chiefly in the broad sense. It is assumed that land is a constant factor of production strictly fixed in amount. In this connection diminishing returns mean the gradually falling marginal productivity of labor and capital employed on the tract of land. The principle of marginal productivity with regard to land can appear also in the narrow sense when the non-marginal land is considered as a variable and the input of labor and capital as fixed. It becomes clear in such a case that the rent of land does not depend only upon the amount of the complementary primary factors of production (labor and capital), but also upon the amount of the land itself, which from the standpoint of an individual farm is a distinctly variable factor and thus may affect the results of the cultivation of the soil.

In practical life, the decrease in production of, let us say, wheat which accompanies the subtraction of one acre from the given amount of the non-marginal cultivated land measures

roughly the marginal productivity of land and the size of its rent. So, if one acre was subtracted and the total crop reduced by five bushels, which could be sold at \$10 it is possible to assume that the actual product of an acre of land amounts to five bushels and that the rent of the entire farm is \$10 per acre. It is evident that the land in question does not represent a marginal farm which could not consider natural land as an object of economic calculus. In general, one must avoid a confusion between the genuine marginal land and a marginal piece of land in the sense of the last added unit of the non-marginal land.

The later case implies that the land as a factor of production normally is subject to the principle of substitution as any other primary productive agent. When one speaks of substitution with regard to land, one has to make a distinction between the two following cases :

1. When the services of land become expensive, one "deepens" the soil by increasing the degree of intensification of its cultivation. In other words, one raises the input of capital and labor. In the reverse case, one "widens" the cultivated area by substituting land for capital and labor which implies the process of extensification of the land's cultivation.

2. The cultivation of one agricultural product is substituted for the cultivation of another one. This occurs because one product loses its ability to yield an intra-industrial rent, while another becomes able to do so. Such a change is a continuous process in real life because the effective demand for various products constantly changes and the quantity of various factors of production needed for cultivation of different agricultural products can also change.

The process of substitution with regard to land in the first case when land is substituted for labor and capital or vice versa depends upon the economic rent of land ; in the second case, however, when one agricultural product is substituted for another one intra-industrial rent is decisive.

Urban rent always is organically linked with the proper rent of land. Yet, it has its own peculiarities, so that rent of this kind represents a category by itself. In contradistinction to a horizontal differential agricultural rent which usually arises as a result of the fact that for the products obtained by two different tracts of land at unequal costs, there are uniform prices, a differential urban rent develops for a reverse reason, namely because the price paid for the use of an urban land is determined by the effective demand for the site and thus is not uniform while the building costs remain in principle the same everywhere. In addition, any urban rent is a local phenomenon while an

agricultural rent in under modern conditions, largely influenced even by the world market.

The location value of an urban site (again in contradistinction to the locational value of an agricultural land) is influenced very little by transportation costs because such a saving of expenditure to the people is too trifling to establish the standard of urban rents. Some extraordinary variations in rent appear in the heart of a city where the differences in the cost of transportation disappear altogether. Consequently, any urban rent is determined by demand for the site which in its turn is almost entirely determined by location. One is usually willing to pay a larger urban rent for a residential location that is characterized by quietness, better air, conspicuous consumption, etc., or if there is a chance of transacting a greater volume of trade which is typical of the centers of the retail and financial areas of the city. In the latter case the reason for a higher rent is purely economic. It is evident that the stores in poor locations have a greater loss from spoilage and obsolescence on account of a slow turnover and that they tend to spend large amounts on selling activities (especially advertising) in order to offset the disadvantages of the location. Roughly speaking, urban rent is that part of the gross rental which is paid as a premium for the advantages of a better location. Especially high is urban rent in mining towns when they grow. The same can be said of an expanding town which serves armament production. For this reason, any urban rent has a distinctly monopolistic (rather monopoloid) character, frequently contains an unearned increment and shows a tendency to grow very rapidly. One can hardly say the same of agricultural rent. The monopolistic nature of urban site rent is especially stressed by Chamberlin.

Urban rent is a total rent because it can appear simultaneously as a horizontal and vertical rent. The urban horizontal differential rent shows, according to Charles Gide, the degree of "commercial productivity" since the owners of different urban sites by offering their services for commercial use produce a location utility of a comparatively different magnitude. The same view is advocated by Cassel. On the other hand, von Wieser stresses the presence of a vertical urban rent which he defines as an "intensity rent". Such a rent appears because the vertical utilization of an urban site is liable to the principle of diminishing returns. This principle becomes effective rather slowly because until the "point of diminishing returns" is reached, every additional floor of an urban building is constructed at less expense since the divisor by which the costs of construction for the foundation and the roof are apportioned gradually increases. In addition, von Wieser stresses correctly that the limit at which further vertical utilization of the urban space ceases to be profitable is raised by the elevator.

The question whether there is an absolute urban rent is rather controversial and even confusing. Some economists, like Rev. Pesch, S.J. and Hans von Mangoldt answer this question in the affirmative. Some other economists, like von Wieser do not deny that in a big city even an inferior tract of land in the outskirts may yield urban rent. Yet, they maintain that this rent is differential and not absolute because the respective site is not marginal but is already compared with the potential "rim" of the city, since any big city is under normal conditions in constant growth. From a scientific viewpoint, both sides are consistent because von Mangoldt apparently develops a static approach by considering the actual rim of the city as marginal urban land while von Wieser introduces a dynamic element by assuming that the marginal urban land is an implicitly moving phenomenon and not the tracts of land on the actual border of the city.

The real situation is, however, still more complex because both approaches disregard the fact that the modern city does not represent a distinct structure. In other words, the older notion of the typical city no longer holds true. Instead of a business district as a "heart" with values in rentable properties extending in cheaper concentric circles about the center toward the edge, modern cities tend to develop several centres of more or less major importance in business field and in residential housing—little islands on the rim of the city or even beyond the principal city proper. Each "island" has its own scale of urban rents and practically contains a certain amount of marginal urban sites. Thus, the problem of the urban absolute rent as it was discussed in economic theory is rather confusing because there is no longer a definite "rim" of the city which could be treated in a static or a dynamic way. One should rather think in terms of the roughly non-competing areas within a greater modern city.

If the poorest or marginal urban site does not yield any urban rent, it still should bring an agricultural rent because otherwise this piece of land could be used for producing perishable agricultural products. This is the reason why urban land value normally does not fall below the agricultural land value which is correctly stressed by von Wieser. The marginal urban site that is used for acquisitive purposes and contains a house ought to earn a gross rental which covers the actual agricultural rent and the costs of maintenance that are composed of current expenses for taxes, management, repairs, amortization of the building capital and a customary interest on the capital which remains invested in the building. Since the marginal urban piece of land does not yield a horizontal differential urban rent, its market value will be determined by the capitalization of the actual agricultural rent. In other words, if somebody owns a marginal site in a large town and succeeds in getting an objectively normal interest on the

capital invested in the lot, he will virtually get a concealed agricultural rent because no piece of land in such a town can be marginal from the standpoint of agriculture on account of its location. This implies that normally the marginal urban site represents an active investment and thus is a portion of the "income bearing" real wealth.

When a sky-scraper is built, the use of an urban piece of land is intensified by heightening the building. Here intensification does not mean "going down" as in agriculture where the soil is deepened but on the contrary, "going up". It is evident that in such a case, the input of capital and labor has to increase. A tendency to build skyscrapers is present when the urban sites are scarce, urban rents are high and for these reasons a "broadening" of the buildings is too expensive.

A non-marginal urban site may yield from the standpoint of agriculture an inter-industrial rent while the marginal urban land normally is agriculturally non-marginal, since it is (even in the case of infertility) especially favored by location in terms of transportation costs.

It is typical of the urban rent of land that it frequently causes the appearance of an intra-industrial rent because a tract of urban land down-town can be eventually rented at a comparatively favourable opportunity rental since it normally has multiple uses. So, for instance all retailing is carried out in areas where the worst usable location could eventually be the site for a hotel or a movie or a cafeteria. In addition if somebody rents a piece of urban land (practically a "site") as a retailer or as somebody else at a low opportunity rental on account of a long term contract his competitor who rents otherwise and thus pays a bigger rental will be unable to wipe out his intra-industrial rent because there will be an institutional obstruction. Should the owner of an urban piece of land profit by a long term contract he will get an intra-industrial rent if even in a very broad sense.

The rent yielded by a natural resource is in principle a permanent (*i.e.*, "eternal") rent. In particular, the proper rent of land is fundamentally an eternal rent for the following two reasons :

1. Since natural land as standing room is permanent, the supply of better sites can not be increased easily; in reality this supply is quite inelastic. This implies that the entire production of the given crop can hardly be confined to the best grade of land. Besides the long term investments linked with the soil and contributing sometimes to its fertility cannot be easily increased by the landowner even when the natural land ceases to be submarginal and the fixed real capital promises to yield a capital rent. All

this accretuates the horizontal differential rent of land which in principle is a logical category and is ultimately based on the principle of diminishing returns.

2. Farming is not so much a business as a way of life. Consequently, its development does not depend in a large measure upon an occasional change in the gross rent. It is evident that this reason may favor sometimes even a distinct perpetuation of absolute rent in a broad sense.

If a rent is yielded by another kind of durable non-reproducible natural resources, like for instance, a meteoric stone, it has a likewise permanent character which is stressed, in particular, by Marshall. In addition, eternal rent of personal nature can be derived from a human talent. One could, for instance, say that any inborn inimitable capacity brings a permanent "spiritual rent" which is not necessarily expressed in terms of money. This fact is stressed especially by Senior and Wicksteed. One cannot deny that a highly unique personal capacity is a permanent natural gift even if one assumes like Knight that it is largely mixed with the results of opportunity and training so that a rent derived from it has a mixed character in spite of its permanence.

On the other hand, a man-made institution hardly ever yields an eternal rent. For instance, a business concern may have an outstanding exclusive organization based on some secret devices and the extraordinary business ability of its manager; it will enjoy in this case a stable differential surplus revenue which, however, in the long run, will turn out to be a quasi-rent.

Schumpeter is hardly right when he contends that the "productivity theory" of rent is incompatible with the theory of differential rent of land. It is true that the school of marginal utility deals rather with the absolute rent. Yet, fertility and location of the soil have also an impact because in conformity with the dialectical principle quality changes quantity. If one adds to the given amount of land 10 acres of a high fertility, they should be, perhaps, treated as 20 ordinary units of land.

CHAPTER XVI

CAPITAL

Capital is the non-original primary factor of production which cooperates with labor and natural resources. It appears either as a regular material productive agent or as a productive force in monetary form. This complex character of capital produces some implications which are similar to the somewhat intricate relation between real income and money income. Besides, not all money capital acts as a productive force in a strict sense because sometimes it is so closely linked to real capital that appears as a pure abstraction used in accounts.

There are three kinds of capital :

1. *Real capital* which is defined as "natural" or "productive" capital since it has material substance and is very conspicuously linked with the production of material goods. This is in a sense a "static" form of capital which is analyzed by almost all economists and in particular by Bohm-Bawerk, Marshall, Cassel, and Alfred Ammon.

2. *Formal capital*, which is considered frequently as "business capital" or "pure capital." This kind of capital should be defined as money capital of an abstract nature which symbolizes an active investment. This is a kinetic or semi-static form of capital which is important in accounting. From the standpoint of economic theory, formal capital can eventually act as a generator of inflation and thus possesses a potentially dynamic nature. The theory of formal capital was developed by J.B. Clark, Sombart, Veblen, Cassel, Pigou and Knight.

3. *Capital disposal* which serves as investing power. This is a purely dynamic form of money capital. It can be brought into close relationship with technological progress under the assumption that its creation is stimulated by dynamic entrepreneurs. The theory of capital disposal was developed by Schumpeter, Cassel, Hicks, Fetter, Oscar Lange, Fritz Mann.

These three kinds of capital are closely interrelated. For this reason many contemporary economists treat all of them. In particular, this can be said of Cassel, von Wieser, Ammon and Hicks. Some economists, however, do not fancy every form of capital. For instance, Schumpeter and Pareto neglect formal capital while Bohm-Bawerk pays attention almost exclusively to real capital. Fetter goes so far as to reject the concept of real capital and Hayek, that of formal capital. Such cases are exceptional however.

By *Real capital* is understood a system of real capital goods which are man-made or man-improved economic goods of a normally material nature that are used or held rationally for the purpose of producing or acquiring material wealth. According to this definition, all untouched natural resources such as virgin natural land, do not represent a portion of real capital. On the other hand, a man-made improvement of soil is a real capital good even if it is so closely linked with natural land that it could not practically be separated from it. The same is true also of a man-made intermediate good, defined as "right", which normally is vested in revenue bearing securities.

Pareto considers labor as "personal capital" which according to him is a portion of real capital. The reason is that labor in part is "man-made" by means of education or self-discipline. This view cannot be accepted however. First of all, creative labor (e.g. talent) is a free gift of nature, a divine spark, and thus is never man-made. Of course, labor in general has something in common with ordinary land, since it combines inborn and distinctly inherited qualities with some man-made elements. Yet, the bearer of all these "elements" (or capacities) possesses a personality while a piece of land has none. For this reason alone labor must be considered as a category by itself and not a portion of real capital. Only a slave can be identified with a real capital good, since in his case "labor" is not separated from its bearer in his master's judgement. Hicks likewise excludes labor from real capital and gives a kindred reason. He contends that labor has no capital value. This certainly is true again with the exception of a slave.

Almost every economist agrees that real capital cannot be considered as an original factor of production, like labor and natural resources because it is derived from the labor of man applied to nature. In particular, Schumpeter defines real capital as a bundle of previous labor and land services. Also, most Classical and Socialist economists maintain that "natural" capital is stored labor. To a certain extent, these definitions are correct; yet, they overlook or do not sufficiently stress the fact that real capital has emancipated itself from labor and nature since it acts in real life as an autonomous productive agent even if it is at the most a "mediator" (e.g., as a system of real machines and tools) which makes possible a round-about method of producing material goods and thus causes the more efficient application of labor to matter. This emancipation of real capital is due to the time element which is especially conspicuous when the production of tools takes place with the aid of some other real capital goods. Von Wieser says correctly that since real capital is derived from labor and nature, its reproduction on a large scale would have required in a technically advanced country

a tremendous amount of natural resources and skilled labor which hardly would be available immediately. Besides, under modern conditions, the reproduction of a complex machine is virtually impossible without a developed machine tool industry. In other words, it is necessary to possess quite a few elaborate real capital goods in order to be able to produce a single efficient real capital good.

Our definition of real capital brings complication. It maintains that some portions of this capital contribute to production in a broad sense only. In other words, they help to produce a new utility which is not a "form utility" and thus have a distinctly acquisitive nature. Consequently, real capital cannot be reduced to a system of man-made producers' goods in a narrow technical sense, because sometimes it appears as a historical phenomenon. The theory of capital was precisely the thing that induced Rodbertus to make his famous distinction between logical and historical categories. One must admit, however, that Adam Smith was his precursor since he likewise approached the concept of real capital either from a social or an individualistic standpoint. According to Rodbertus, real capital should be subdivided as follows :

1. Social or national capital as a logical category, represented by a system of man-made factors of production in a narrow technical sense, like tools, machinery, raw materials, etc.

2. Private acquisitive capital as a historical category which pre-supposes the existence of private property. Such real capital is composed of different durable consumption goods which are used as means of acquisition, as for instance, an apartment house, a boat, a leased chair on a private beach, etc.

There are three approaches to the concept of an acquisitive durable material good, like an apartment house, namely :

1. Such a durable good is not a real capital good from the standpoint of the national economy as a whole and thus does not belong to social capital. The reason is that it yields direct satisfaction to a consumer. Consequently, it is only a portion of national assets. Since, however, an apartment house normally yields a net revenue, it is simultaneously an item of private acquisitive real capital. This is what was meant by Rodbertus and Marshall.

2. Any durable consumption good yielding capital rent takes part in production in the broad sense since it is remunerated for its services, produces a utility and thus is a real capital good with social tinge. In particular, an apartment house creates utility in place and produces the commodity "shelter" (in the

terminology of Wicksell). This view is especially advocated by Cassel and Wicksell.

3. The material good under discussion represents a "non-social" real capital good from the standpoint of an abstract money exchange economy which is based on a regular exchange of material goods. It is not an item, however, of real capital but only a part of real wealth (in a broad sense) if a genuine national economy coming close to a unity (in Strave's sense) is taken into consideration. This opinion is advocated by the Swiss economist Alfred Ammon.

Each of these approaches is incomplete but none is wrong in principle. On the one hand, Rodbertus is right when he says that under capitalistic conditions an apartment house comes in the category of private acquisitive capital. On the other hand, Wicksell stresses correctly that since an apartment house is a means of production in the broad sense, it has a social quality under all conditions. Yet, one must agree also with Ammon that when a national economy is close to unity, an apartment house is but a portion of the national non-acquisitive real wealth. All this implies that the character of the socio-economic order must be taken into account when judgement is passed.

The following scheme of propositions will show what exactly is understood by a real capital good :

1. By such a good we understand any man-made and man-touched material good which participates in the process of production in a narrow technical sense and thus represents a good of "derived" demand or which does not take part in such production but still serves as a source of acquisition in a regular way. In the latter case, a good becomes a portion of real capital only because it takes part in an acquisitive process of production in the broad sense since it is exploited by its possessor. Under such conditions the good assumes the character of an acquisitive indirect means. For instance, the services of a top hat pertain to final consumption unless this hat is leased regularly and thus serves as a bundle of vendible utilities. It is evident that such an acquisitive good is an historical category, although it is not exclusively linked with capitalism but can appear in any socio-economic order which admits private property in respect to consumer's goods and an independent individual income. This is the case at present in the Soviet Union. Under normal capitalistic conditions, acquisitive capital is very conspicuous however and can be defined in the terminology of Adam Smith as "that part of person's stock from which he expects to derive an income."

2. According to Professor Hayek, one has to understand by a real capital good, any non-permanent acquisitive resource

so that real capital means to him "the aggregate of those non-permanent resources which can be used only in an indirect manner and contribute to the permanent maintenance of income at particular levels." In other words, a man-made durable good if it remains "useful forever" does not belong to the real capital while any natural resource which is a "wasting" asset, that is, is of a non-permanent nature, belongs to it. In our opinion, this proposition should be rejected because there is no man-made productive agent which would be literally permanent and thus would not require replacement. If we take as an example a very durable man-made good, such as tunnel, our standpoint will be still valid because a tunnel must be frequently repaired; its elaborate ventilation alone requires a permanent care. Even a concrete sea wall which represents perhaps the most durable man-made good is not exactly impregnable in our time of an extremely advanced technical warfare. On the other hand, almost any awoken wasting natural resource really becomes a real capital good but not because it is non-permanent (as Hayek assumes) but because it is "man touched" and thus constitutes a part of the circulating real capital.

3. Real capital goods can have a fixed or circulating nature. John S. Mill gave a good definition of these two kinds of real capital goods when their system appears as a logical category. According to him, any fixed real capital good exists in a durable shape and its activity is spread over a period of corresponding duration by writing off its depreciation. In other words, any fixed real capital good is in principle productively consumed; yet, its participation in production cannot be perceived sensually and could be determined only by means of amortization. If, for instance, a machine lasts five years and at the end of the first year of its productive use is estimated at four-fifths of its original value, this implies that one-fifth of this machine was productively consumed. On the other hand, any circulating real capital good fulfills according to J. Mill the whole of its office in the production in which it is engaged by a single use or in a small number of processes. Thus such a good serves by being productively consumed in a more conspicuous way. This definition is correct but not complete because the given real capital good will be considered by a firm as an item of circulating capital also if it can be disposed of in a single act of turn-over. To this category belongs any finished product treated as merchandise including vendible rights. In this latter case, however, we have to do with private acquisitive real capital of a normally social nature which is not productively consumed.

Professor Boulding says that the tires of an automobile used over a hundred miles are fixed capital but taken over 20,000 miles are as much circulating capital as the gasoline because they are transformed into "miles." We cannot share this contention

because productive consumption of tires took place in both cases although in the latter instance it was more conspicuous. The fact that it took a long time to consume the tires only confirms their fixed nature. It is evident that the tires are under all conditions productively consumed by being gradually worn out. Of course, they are ultimately turned into miles but also a machine is turned into a finished product. On the other hand, gasoline as such is consumed quickly—which is typical of a circulating real capital good. Even if it is stored in the tank of a car, it is used in a small number of processes. Thus, the tires of an automobile are not akin to gasoline since they can be only a fixed real capital good and this as a rule in the case that the given car is a source of acquisition, like, for instance, a taxi cab. Otherwise, they will be simply a durable consumption good and a portion of the individual's non acquisitive real wealth.

It is evident that fixed and circulating real capital goods are closely interrelated. Here two cases are possible :

(a) The same real capital good can be either fixed or circulating. For instance, a machine operated by a factory is a fixed real capital good, while a machine sold by a machine builder as merchandise is a circulating real capital good. In the latter case, it is disposed of in a single act of turnover.

(b) A fixed real capital good frequently consumes productively a circulating real capital good. So, for instance, a machine consumes coal or lubricating oil that are circulating real capital goods. A milking-cow which is often a fixed real capital good since it is a man-touched natural resource that serves as a regular source of acquisition, consumes productively fodder which is a circulating real capital good and simultaneously a man-touched natural resource, like, for instance, hay. Man manages in this way to live off coarse grasses that he cannot eat himself by transforming them into the milk and eventually flesh of a tame animal which he can again handle as circulating real capital goods, *i.e.*, as merchandise. We mean, in our example, a cow belonging to a dairy farm ; otherwise, it will be a durable consumption good. In general, one should avoid a confusion between durable material goods of an implicitly indirect nature (like tools, machines, raw materials) that are necessarily real capital goods and those durable goods which, like a car, house, boat, have a direct relation to the final consumer and thus can be considered as real capital goods only if they serve as a source of acquisition. Under normal capitalistic conditions, even, the durable material goods belonging to the first category, such as machine, assume necessarily an acquisitive bias. Yet, a non-acquisitive tool is likewise a real capital good.

The use of productive capital in the narrower sense does not transform the given socio-economic order into capitalism unless it brings about a prevalence of the acquisitive principle. Otherwise, one will have to come, like Professor N. Gras, to a strange conclusion (to say the least) that modern communism and the economy of a savage who uses some tools are capitalistic "non-business" economies. The term capitalistic in a non-institutional sense might be used only in the Bohm-Bawerkian way, namely, as a designation of a round-about way of production based on the use of real capital, that is, without a reference to any institutional problem.

4. The fixed real capital conceived as productive capital in the narrow sense appears in two different forms if it is used by a factory. It is especially distinct as real capital if it is composed of durable goods producing some other material goods. To the category of such real capital goods belong, for instance, machinery, factory buildings, factory power station, etc. A machine produces another good but remains itself a good of an "indirect demand" since it has no direct relation to consumers. There can be, however, still another kind of fixed real capital goods possessed by a factory. We mean, namely, such durable material goods that render their services in a close (organic) connection with the process of production in the strict technical sense although otherwise they would be productive in a much vaguer way. Into this category come, for instance, street cars which are operated by a factory and used exclusively by its workers, some apartment houses belonging to a factory and raising the real wages of its employees, etc. This case was well elucidated by Cassel. As to the circulating productive capital in the strict sense used by a factory, it is composed of material goods which are still in the process of production, such as raw materials, semi-finished goods, auxiliary materials, like lubricating oil and even sometimes a stock of consumer's goods which afford a direct sustenance to the workers and thus serve as a certain "wage fund" or as a means of increasing real income of the factory's employees.

As mentioned before, the fixed real capital must be regularly reproduced even in a stationary economy. Amortization implies the creation of a certain replacement fund, which even under socialistic conditions should be a regular concern of each individual economy. The problem of replacement fund can be reduced from the standpoint of economic theory to the following propositions :—

1. If an individual entrepreneur does not care for the replacement of his fixed real capital estimated at its original costs (in terms of neutral money), he misunderstands the very character of amortization as an expression for productive consumption

and dissipates his material wealth. The same is true if the replacement is financed by means of the borrowed funds since in such a case there will be hardly any formation of the replacement fund.

2. If a business corporation lets its fixed real capital deteriorate through not spending enough of its gross income on the maintenance of its equipment, it pays out an unearned dividend and has a pseudo prosperity. This is a rather frequent case during a depression when amortization is often neglected as supplementary costs in the Marshallian sense which are not supposed to be covered in a short run. Besides, during a major inflation, the customary amortization is utterly insufficient. On the other hand, it would be scientifically wrong if the business concern under normal conditions adjusted the written off depreciation (*i.e.* amortization) to the changeable reproduction costs of the real capital good because amortization has only to replace the original costs of the productively consumed productive agent. In other words, if the given machine costs \$5,000 and is normally used up in five years, it should be written off to the amount of \$5,000 in terms of money with the same purchasing power. If after five years, a similar machine can be purchased only at \$6,000 on account of a relative shortage, the insufficiency of \$1,000 will represent a peculiar loss. Such a loss should be covered out of a special reserve fund but not by means of amortization which symbolizes a regular productive consumption of the given machine. If the replacement of a machine can be made below the written off original costs there will be a windfall gain which is irrelevant for us in the present context.

3. If quite a few large firms do not replace or reproduce their fixed real capital regularly but only by leaps and bounds, the business cycle will be accentuated—which was duly stressed by Marx and Tugan-Baranovsky. If they, in general, neglect amortization, the real capital of the nation will necessarily decrease.

4. When money capital moves from one industry to another, it is often the accumulated replacement funds that are shifted. In economic history, we know some cases when, for instance, owners of ships were reluctant to replace the vessels and shifted their capital disposal derived from the replacement funds to another more prosperous branch of the national economy.

The replacement fund is thus a very important phenomenon for two reasons :

(a) It represents a highly dynamic factor which may change at any time the demand for various categories of the fixed real capital goods.

(b) When the written off depreciation is excessive and the replacement fund remains immobilized for a longer duration, there will be, as we know, a discrepancy between the effective spending power and the corresponding social product during the given period of time. Besides, estimation of social product will be incorrect.

5. Since amortization is an indispensable outlay caused by the productive consumption of the fixed real capital goods, it constitutes a real cost which is only expressed in terms of money.

6. The "book-value" of a partly written off fixed real capital good shows roughly its subjective utility (serviceability) from the standpoint of the given firm, provided of course that amortization exactly corresponds with the respective productive consumption.

7. If the replacement fund grows large because there is a shortage of material so that the worn out fixed real capital goods cannot be reproduced the replacement will lag and there will be a "forced immobilization" of the given fund.

8. If writing off depreciation assumes a larger proportion than it was expected not because the tempo of the using up the given machine is slightly accelerated but because the "depreciation" as such is intentionally surpassed, the given replacement fund will contain a portion of surplus revenue which is concealed and thus creates a silent reserve.

9. Amortization means the writing off of depreciation one hundred per cent. If after that a machine still works, it will be from the standpoint of economic theory, a new good because the first one was economically used up in the process of production in the narrow sense and virtually reproduced itself by means of amortization. A written off machine which is not expected to undergo a new amortization will be for a certain time a source of surplus revenue. It is evident that it cannot be requested to reproduce itself once more. In general, a written off machine is productively consumed but neither destroyed, nor in principle left intact.

In summarizing, we have to stress once more that amortization is an important problem, not only from the standpoint of accounting but also for those who care for economic theory and this for at least the following three reasons :

1. Amortization serves to appraise the participation of the fixed real capital good in the given process of production.

2. It confirms the fact that any fixed real capital good has to reproduce itself. A written off machine is practically a new good and thus a pure source of acquisition.

3. Under modern capitalistic conditions, a replacement fund is a powerful productive force from the standpoint of the national economy as a whole, which may, however, eventually cause a decrease in the aggregate spending power during the given period.

The following scheme will show what one has to understand by obsolescence or depletion of the real capital goods in contradistinction to their productive consumption, namely :

1. Under abnormal conditions, any real capital good can be physically destroyed ; under all conditions, it can become obsolete by ceasing to be a portion of real capital. This is especially conspicuous when the market value of a fixed real capital good which cannot be used any longer economically is reduced to that of scrap and in some exceptional cases even to zero. For instance, the invention of wireless telegraphy and radio which saves material and makes a long distance communication almost perfect displaces submarine cables. Since it often costs more to raise such a cable than can be realized for the material contained in it, this former real capital good becomes obsolete to such an extent that it cannot be used even for scrap. John Due maintains that in the mountains of Colorado there are numerous abandoned railroad tunnels and miles of unused railroad grades in useable condition, but incapable of yielding any return and therefore valueless.

Under abnormal conditions, a fixed real capital good can become also provisionally obsolete if some complementary agents or replacement parts are lacking. For instance, a Swiss watch which belongs to a factory and needs repair is at present time in St. Louis at least provisionally obsolete, since the necessary replacement parts cannot be produced at a reasonable price.

This is the reason why an excessive standardization may eventually become dangerous for durable material goods.

If a hunter has no more bullets and cannot get any, his rifle ceases to be an effective real capital good ; yet, it will be only temporarily obsolete unless the hunter gives up his activity and hangs up his rifle on the wall as a decoration. Should this happen, the given rifle will assume the character of a durable consumption good akin to a picture at least in the mind of its owner. Von Wieser neglects the fact that a real capital good which becomes only temporarily obsolete still does not forever lose its "capital nature." Only a productive agent which has lost its objective utility as such will never again be a real capital good.

2. Under more or less normal conditions, even the given fixed real capital as such (that is, as a system of definite fixed

real capital goods) can become obsolete. This happens when it has to be dissolved as a system mostly on account of drastic changes in the objectively necessary technical combination of complementary real capital goods. Here two cases are possible:

(a) If most of the given fixed real capital goods are non-specific they can be transferred to another use so that almost the entire fixed real capital of the given ailing business concern will be integrated into another system of fixed real capital goods. Thus, may arise a new more adequate fixed real capital.

(b) When most fixed real capital goods are highly specific (which is rather a rare case) the given fixed real capital will be transformed into a heap of scrap which, however, may some day be actualized in the shape of separate single fixed real capital goods entering some new systems of capital goods. This case is a good example for the difference between "system" and "heap" in conformity with Struve's teaching.

3. When an individual acquisitive economy, in particular a factory, suffers a loss, its real capital continues to exist provided that this loss does not make the factory as such obsolete—which is correctly stressed by Fritz K. Mann. Only in the long run real capital and loss are virtually incompatible because such a capital will be unable to survive as a system of some definite real capital goods.

4. If there is an artificial increase in the aggregate effective demand for consumers' goods caused by a certain abnormal transfer of income from saving to non-saving classes by means of some social security measures financed through taxation, there will be a certain "forced dissaving" which may eventually lead to a decrease in the fixed real capital of the nation in a measurable time. Some contemporary economists, like, for instance, Hayek, define such a development in respect to the real capital as "capital consumption." In our opinion, this contention is not necessarily correct because under the above-mentioned conditions, there will be perhaps only a stabilization of the given amount of fixed real capital which otherwise would be increased. In other words, the net investment alone will be eliminated. A distinct consumption of real capital will occur only in the following two cases :

(a) If a fixed real capital good is not written off or is not replaced in spite of a presumed amortization. The same is true when a non-durable productive agent is not reproduced.

(b) If the aggregate effective demand is so institutionally shaped that it does not permit the perpetuation of quite a few fixed real capital goods. In such a case, the fixed real capital

will necessarily decrease and will be really in part consumed by the nation if some additional final consumption goods are produced instead. Here a distinct forced dissaving will take place.

5. Fixed real capital never can be subject to an "institutional consumption" as is sometimes assumed. If a sudden innovation makes the given machine antiquated although it still retains the major portion of its physical substance and thus is not entirely written off, there will be no consumption whatsoever but a distinct loss—which is correctly stressed by Hicks. For this reason, it is theoretically wrong to raise the tempo of amortization when an innovation is expected. A consistent policy in such a case would be to increase the reserve fund meant for eventual losses by curtailing net revenue. In other words, a machine can be sometimes institutionally depleted but never consumed in a strict sense. It is correct to increase the tempo of amortization only if the productive consumption of the given machine is accelerated.

The fact that real capital can become obsolete does not refute in principle its static nature because as long as it exists as such, that is, as the given system of the given fixed real capital goods, it must reproduce itself, otherwise, it will be either a heap of scrap (*i.e.*, no longer a system) or will be transformed into a new system of real capital goods. This virtually means also Professor Knight when he maintains that fixed real capital is normally and conceptually perpetual; its replacement has to be taken for granted as a technological detail. We should not, however, go so far as to deduce from this fact (like Knight) that the static character of fixed real capital emancipates it from labor and nature to such an extent that it may be considered even as an original factor of production. Such a contention is precluded by an eventual institutional depletion of any given fixed real capital good. In other words, the fact that real capital can become obsolete for different reasons proves sufficiently that it has only an abstract permanency and is in reality sensitive especially to any major change in technique which reflects the growing victory of man's labor over nature. This is the reason why revolutionary innovations are frequently disliked by the vested interests. Thus, the given fixed real capital depends upon labor and nature not only on account of its origin but also because of its sensibility to any change in the technical coefficient.

The well known controversy between Knight and Hayek over the very nature of real capital is rather misleading because each is right from the standpoint of his own train of ideas. Namely, Knight conceives real capital in the last analysis just as we do since it is for him a certain entity which is inasmuch perpetual as its constituents ought to be replaced as soon as they are worn

out or used. In other words, Knight's real capital has a static nature. On the other hand, Hayek's real capital is a kinetic whole since he insists that the given real capital can be at any time structurally changed if the replacements are not exactly of the same nature and serve eventually another purpose. According to us, however, in such a case the given real capital will be dissolved and a new system of real capital goods will replace it. Hayek's standpoint is in principle defensible but rather desirable because the static idea of replacement or perpetuation is inherent in fixed real capital and for this reason should be stressed. In reality also non-durable real capital goods, like raw materials and auxiliary materials, must be regularly replaced as soon as they are productively consumed because otherwise the volume of output will have to decline unless there is a revolutionizing innovation which decreases the necessary input of materials. The fact that also productive circulating real capital has to be replaced is especially evident in the case of a stationary economy.

We turn now to the discussion of *formal* capital which in contradistinction to real capital is a distinct historical category, because it pre-supposes the existence of a genuine money exchange economy which is based on money in the strict sense and in addition has an acquisitive nature. The first assumption is, however, controversial. In any case, formal capital is an abstract kind of money capital which is very closely linked with real capital. The theory of formal capital can be reduced to the following propositions :

1. Formal capital is an abstract sum of money which is embodied by acquisitive real capital goods including rights that assign in the last analysis to a certain revenue derived from real capital belonging to another economic subject. Since any natural resource even a piece of man-touched natural land can be likewise bought with a sum of money and can yield a regular revenue, it may become an embodiment of a portion of formal capital. When an item of formal capital is embodied by some claims, such as a bill of exchange, the investing power of the respective capitalists was not used for acquiring a material good directly but was put at the disposal of another person on certain conditions. If, however, a portion of formal capital is embodied by a patent or a secret device, that are in principle regarded as a man-made source of revenue, which is eventually salable the respective item appears not because other people have undertaken corresponding liabilities.

2. Since formal capital is an abstract kind of money capital, it is never organically linked with definite real capital goods but may assume at any time any other concrete form it chooses. This is the reason why formal capital is a kinetic phenomenon. Henry

Nicklisch says correctly that the purpose of any formal capital is to be left intact while the individual goods embodying it must be replaced or turned over. Should we use the terminology of accounting, we would have to say that formal capital represents liabilities if it is considered from the standpoint of a business concern and thus shows the total amount of claims against the corresponding assets represented by the real capital goods. In economic theory, this idea was elaborated by Knies and his pupil John B. Clark. Their standpoint was adopted in particular by Marshall and Cassel. Knies and Clark distinguish between the two following forms of capital:

(a) Pure or in our terminology, "formal" capital. This capital is an abstract sum of money which is in principle as lasting and simultaneously as kinetic as a water-fall. It retains in principle its entity even if the material goods which embody it are sold or exchanged for others.

(b) Capital goods (in accounting, assets) which usually only temporarily embody the given pure capital. In reality, they enter and leave the respective system of goods like particular drops passed through the waterfall.

3. Formal capital appears only in the frame of a money exchange economy as a historical category and a tool of reckoning the acquisitive wealth in terms of money. Since such a capital is embodied by an income bearing real wealth, it necessarily has an acquisitive nature and is sometimes defined as 'business capital' or even "remunerative capital"—which is typical, for instance, of Veblen and Cassel. When an economic historian or a sociologist say that capitalism expands in the given country, they normally mean that some new kinds of material goods and usually material wealth of a backward region are engulfed by the acquisitive money exchange economy so that they begin to serve as an embodiment for a part of the nation's formal capital.

4. Formal capital is either fixed or circulating. It depends upon how firmly it is embodied by the real capital goods, *i.e.* how easily it can be disinvested. This implies that when the given formal capital cannot be easily embodied by another system of capital goods, it is a fixed capital. If, on the contrary, its embodiment frequently undergoes the process of reconversion, it is a circulating capital. Since formal capital is closely linked with the real capital goods, the here developed idea can be restated from the standpoint of real capital, namely: real capital is sometimes a "free capital." This means that the capital goods of which it is composed constitute a loose system that can be broken up with a small loss or on the contrary can be easily shifted as an entity to another use. So, for instance, sometimes

a factory producing one commodity can be diverted to the production of another good with an insignificant loss if any. Each real capital good is free if it is mobile, *i.e.* if there are quite a few alternative uses to which it can be turned. To this category belong, for instance, many non-specific tools and auxiliary materials. Besides, the mobility of a real capital good depends upon the degree of mobility of other resources with which it cooperates. This fact is correctly stressed by Hayek. Roughly speaking, any single free real capital good can be quickly withdrawn at a small loss (if any) to a more profitable employment.

Real capital should be defined as "specialized capital" if it is composed of immobile real capital goods and thus can be used only for one purpose. Any particular specific real capital good runs a constant risk of becoming almost worthless (that is, of being reduced to the status of scrap) and for this reason is highly sensitive to the business fluctuations. When such a durable good becomes in part obsolete one will have to accept the fact that it yields a revenue which is far below the objectively normal yield because the portion of formal capital that it embodies is firmly fixed, and thus can be disinvested only with a major loss.

Under modern capitalistic conditions, real capital becomes highly specialized and for this reason acquires a considerable degree of economic immobility. This is one of the reasons why a depression hits in our time any acquisitive economy more gravely than ever before. On the other hand, from the standpoint of a physical individual, or a firm, real capital is now freer than in the past because formal capital which it embodies can be transferred to another individual or another business concern by means of saleable securities. In other words, the modern stock exchange makes objectively immobile real capital nominally free by assigning the corresponding formal capital to another owner. Roughly speaking, we have at present in reality a comparatively greater immobility of real capital and thus of formal capital on account of a high degree of mechanization and a frequent use of specific real capital goods. Since real capital is specialized, formal capital necessarily becomes fixed. If, however, we reconsider this problem from the standpoint of ownership, there will be a greater mobility of formal capital since it is vested in securities and thus is itself treated like a certain merchandise. For this reason, Veblen suggests that formal capital be defined as "vendible capital."

6. In our theory of formal capital, we assume that the abstract money capital is embodied only by "income bearing" real capital goods, *i.e.*, by such man-made or man-touched economic goods which serve as a distinct source of a purposeful acquisition. For this reason, any merchandise is a typical embodiment of a portion of formal capital. Consequently, we

do not admit that a portion of this capital could be eventually embodied by some non-acquisitive items. If, however, somebody wanted to do this (which is in our opinion undesirable) it would become necessary for him to distinguish between acquisitive real capital goods and simply "capital goods," by which he ought to understand bearers of a passive investment that would likewise embody a part of formal capital. In general, an investment as applied to an individual economy appears in the following forms :

A. *Dynamic investment* conceived as a process which in its turn is subdivided as follows :

(a) Spending of the available purchasing power on acquiring real capital goods. Usually one means in this case, the so-called "net investment" or bringing about an increase in real capital not its replacement. Such an action implies an active investment.

(b) Formation a new portion of real wealth of a non-acquisitive nature by spending liquid funds on some durable consumption goods, such as a dwelling house, gold bars, jewelry, etc. In general, real wealth of an individual economy exceeds its real capital if it owns such goods like virgin piece of land, gold coins, etc. In all these cases there will be a passive investment.

B. *Static investment* or an investment as a certain status. In this case, it likewise must be subdivided, namely:

(a) It is identical with formal capital or is an active investment if its embodiment is represented by real capital goods that are under capitalism in principle acquisitive.

(b) It is a passive investment if its material embodiment is represented by non-acquisitive goods which do not embody a portion of formal capital. It should be noted that Ralph Hawtrey uses the term "passive investment" in another sense since he identifies with such an investment the unsalable part of "unconsumed wealth" or rather an involuntary accumulation of unsold goods. He believes that such an investment has a great bearing on business fluctuations because equilibrium endures only as long as total investment is of an active nature and equals saving. It is evident that in our opinion also the stock of unsold commodities is a part of total active investment.

Thus, according to our standpoint, formal capital should be identified with an acquisitive active investment while passive investment represents only a non-acquisitive portion of real wealth. If one advocates this approach, one has to admit that formal capital is a distinct historical category and that not the entire real wealth expressed in terms of money is formal capital.

Otherwise, one will have to identify the total investment of any kind with formal capital and there will be a great difference between business capital and formal capital which will be larger. Both approaches are in principle possible but the first one which is advocated by us is better because it secures an organic link between formal capital and real capital that under capitalistic conditions has normally an acquisitive nature.

7. Formal capital is in principle a kinetic whole because it tends to perpetuate itself as a certain abstract "productive capacity" or earning power embodied in the properties of external things (in Knight's terminology) while the real capital goods of circulating nature which embody its part are supposed to be in a constant turnover. In general, as we know, the given formal capital is an abstract sum of money which can be embodied even by two different systems of real capital goods in two different periods. If we take, for instance, a formal capital of \$10,000 it will continue to be an active investment of the same size no matter on what real capital goods it will be based.

Of course, one cannot deny that each going business concern tends to increase its formal capital; yet, this fact does not remove the kinetic essence of such a capital. So, also a waterfall tends to be kinetic although its owner may try to make larger its stream. Hayek, however, not only refutes the kinetic character of formal capital but even rejects this concept of capital altogether especially because he assumes that the firm which regularly replaces its real capital goods tends to keep intact not its abstract money capital that is embodied by these goods but its income. In our opinion, it is normally impossible to assume that an acquisitive firm which replaces its real capital can ever tend to stabilize its income; it will rather try to raise its surplus revenue at the same level of active investment. It is certainly true that Hayek's principle of the maintenance of earning was factually applied after World War I by the American Federal Reserve Banks since they preferred the more stable yield of government securities to the changeable rediscount rates. This was, however, an exceptional case pertaining to a peculiar non-acquisitive financial institution.

8. It is better to use Cassel's term "formal capital" than John B. Clark's term "pure capital" because real capital is much "purer" than formal capital since it is basically a logical category and a quite independent phenomenon while formal capital is implicitly based on an acquisitive real capital and can be inflated. In addition, one should not define formal capital simply as "money capital" because it is not the only form of such a capital. The term "formal" is rather very enlightening as a contrast with regard

to the term "real" which stresses the natural (or concrete) character of the analyzed phenomenon.

9. Formal capital can be at any time in a large measure depleted because it keeps its former size in reality only as long as it equals the market value of the real capital goods by which it is embodied. We mean here, however, only a more or less prolonged disequilibrium between formal capital and its material counterpart. When amortization is neglected by the given business corporation and the corresponding amount of funds is distributed as a surplus revenue in order to be spent on consumption goods, there is a certain "dissaving" which means practically that a portion of formal capital is, in a sense, consumed. Formal capital will have in this case some day to decrease because the fixed real capital by which it is incorporated will virtually shrink, *i.e.*, not only "on the books."

In contradistinction to real capital which is an independent factor of production and to formal capital that has at the most a purely derived productivity, thanks to the fact that it reflects real capital, the third kind of capital, namely, *capital disposal*, may be considered as a peculiar highly dynamic productive force which is productive either because it creates formal capital or because it generates productive activity of dynamic entrepreneurs. Thus, any theory of capital disposal must be necessarily a dynamic theory of capital. We have already seen that capital disposal is an active investing power. The question arises of how it is formed. We have to realize that capital disposal has several sources, namely :

1. It can be derived from the disinvestment of formal capital, provided that the amount of money which results from such an action is about to be reinvested. A sum of money is not a capital disposal unless it is declared to be such. In other words, a declaration of intention to invest the given amount of money transforms the means of assignment into a concrete money capital defined as capital disposal. This is in particular stressed by F.K. Mann.

2. Dishoarded purchasing power in cash which is about to be invested.

3. Disinvested portion of purchasing power represented by the passive real wealth which is slated to be reinvested. So, for instance, the sale of jewelry which never was treated like a merchandise or the resale of a piece of virgin land gives birth to a capital disposal.

4. Dynamic saving when a portion of one's money income is transformed into an investing power, that is, is not used as cash for buying consumption goods.

5. Appreciation of a durable material good, especially of a fixed real capital good, provided that the given good was duly sold for cash conceived as investing power.

6. Capital disposal can be created through an elastic banking system by means of the so-called credit creation.

When an acquisitive real capital good is sold a portion of formal capital is disinvested, that is, is transformed into a certain liquid amount of money which will not be a capital if it is used as cash for buying some consumption goods or, on the contrary, will be treated like a distinct investing power. Thus, each real capital good with acquisitive tinge can be converted into capital disposal over the disinvestment of the corresponding portion of formal capital. In other words, capital disposal is very often in real life a disinvested portion of formal capital which is about to be reinvested. This shows once more very clearly that money and money capital even of a concrete nature are different phenomena and should not be confused especially when they are considered from the standpoint of the national economy as a whole. It is, however, necessary to note that money and money capital are differently treated by an individual, an individual economy of acquisitive bias and a national economy taken as a whole. So, a physical individual considers money as a concrete and in principle instantaneous purchasing power which has to be spent on buying consumer's goods of a non-acquisitive nature and represents normally a portion of his current money income. In this case, cash (*i.e.* money) is no capital at all. Should the given individual consider a sum of money as his money capital he will treat it like a distinct investment power, that is, as capital disposal which will be spent, for instance, on buying an acquisitive consumption good. A going business concern that is an acquisitive individual economy treats money (or cash) like an inactive money capital (*i.e.* capital disposal). It is temporarily considered as a portion of real assets and thus leads to an interesting conclusion that sometimes capital disposal may embody a portion of formal capital, since it has in principle an acquisitive tinge.

The National economy as a whole considers money as a means of assignment which assigns individuals and individual economies to the national real income or to the various portions of the aggregate real wealth. Here money is a certain "satellite of goods" in Schumpeter's terminology. Consequently, any one-sided increase in circulating money supply (including the volume of money substitutes) does not create a genuine capital disposal from the standpoint of the national economy as a whole and causes the so-called money or credit inflation which, however, simultaneously increases money capital of some individual economies to the detriment of some other economic subjects. The

inflationary repercussions of such a policy depend in a large measure upon the velocity of "new money"—which in its turn depends on whether this money enters through open market operations or through deficit financing. Even a stock of precious metals can be advantageously increased in a larger measure by a nation only if it is used for buying foreign goods which are needed and not as a money at home. The failure to understand this on behalf of the early Mercantilists was perhaps the main cause of a grave "price revolution" in the 16th and 17th centuries. In the last analysis only real capital constituting a large portion of national assets counts for the national economy as a whole and can embody a national formal capital of a rather theoretical instrumental nature when the given nation sets up a socio-economic balance sheet. Otherwise, only a national stock of precious metals can be considered as a distinct embodiment of a formal capital which is owned by the socio-economic superstructure as such. This stock of precious metals represents normally (unless the given country is the economic leader of the world), the only case when one can talk about a potential capital disposal owned by the capitalistic national economy as an entity in its own name because such a stock is in principle the most liquid merchandise from the standpoint of the world economy. As soon as it is dishoarded by the nation a capital disposal with international tinge will appear.

Sometimes, capital disposal of private individual economies accumulates within the given national economy in a certain negative way. This happens when the available capital disposal remains immobilized for an institutional reason and represents practically only a latent investing power. If, for instance, labor unions make the high wages "sticky", the potential capital disposal may be immobilized as a certain unstable hoard which will be dishoarded as soon as the situation changes favorably from the standpoint of the respective employers.

Capital disposal can be physically destroyed when, for instance, a dishoarded stock of precious metals conceived as an international investing power is drowned or a dishoarded sum of paper money is burnt; it can be also economically depleted in a large measure by means of a radical monetary policy, like inflation or devaluation. Besides, any decrease in regular saving means a decline in the amount of investing power which would be otherwise available in the future for the creation of new formal capital. Yet, in this case, one could not speak of a depletion of capital disposal in a usual exact sense.

Since capital disposal is a highly dynamic investing power, one might consider it as a free or a floating money capital as is for instance done by Marshall. On the other hand, the tendency of

some modern economists, like, for instance, Wicksell and Denis Robertson to identify the liquid money capital with loanable funds should be rejected because not the loan but the investment is inherent in the very concept of capital disposal. In addition, loanable funds represent only a portion of the given capital disposal at any one time.

The dynamic theory of capital as applied to capital disposal appears in economic theory in three forms, namely :

1. *Evolutionary* or purely dynamic theory of Schumpeter, Walter Eucken, Rev. Bernard Dempsey, S. J., Oscar Lange, etc.
2. *Functional* theory of Sombart.
3. *Empirical* theory of Cassel.

The purely dynamic theory of capital was made known in our time by Schumpeter ; it is, however, a rather old school of thought. This theory was introduced still by N. Senior who maintained that capital derived from labor and abstinence serves as the proper generator of the economic activity of a nation. Also Benjamin Franklin contented that money (capital disposal) is of a prolific generating nature. There is only one essential difference between Senior and Schumpeter, namely, Senior assumed that the generator conceived as investing power is saved and thus acts directly as an emancipated productive agent, while Schumpeter stresses that it acts mostly indirectly by way of credit which creates an additional capital disposal and thus enables the dynamic entrepreneurs to introduce innovations and to get a larger share in the national real income. The main propositions of Schumpeter can be summed up as follows :

1. Capital is nothing but a lever by which the entrepreneur subjects to his control the concrete productive agents which he needs : nothing but a means of diverting the factors of production to some new more progressive uses and thus of dictating a new direction to production. Roughly speaking, capital in this sense means a command over the factors of production.

- 2 Capital stands as an agent necessary to production in a capitalist exchange economy something like a bridge between the entrepreneurs and the world of material goods. It does not, however, take part in production directly but only constitutes a fund out of which the factors of production can be paid for. Consequently, capital, in this sense, does not consist of goods but represents a fund of investing power.

3. Capital is a concept of development to which nothing in a static economy corresponds. It is that amount of means of payment which is available at any moment to be put to the disposal of genuine entrepreneurs who transform inventions into innovations.

This scheme implies that Schumpeter's theory of capital which is here under consideration is distinctly dynamic. It has nothing in common with the ultimately static theory of real capital which we have developed because it does not consider capital as a real factor of production that has a material nature or as a sum of money (in the sense of abstract money capital) which is embodied by the real capital goods. In other words, the main Schumpeter's theory of capital pertains exclusively to a dynamic investing power which many modern economists define together with us as capital disposal. It is especially typical of Schumpeter's approach that capital disposal is conceived as an artificially and simultaneously rationally created investing power which transforms the modern capitalistic economy into a highly dynamic and technically progressive structure. Thus, the main Schumpeter's capital theory has a distinct evolutionary tinge. It is evident that a dynamic entrepreneur can introduce a major innovation which would be rational from the standpoint of the capitalistic socio-economic order only if he can more or less correctly anticipate the corresponding investment gain. This is the reason why Bernard Dempsey assumes that capital disposal cannot act as an effective lever unless the entrepreneurship is organically linked with knowledge, that is, unless any entrepreneur who uses investing power proves to be sufficiently experienced in anticipating profitability of the innovation he is going to introduce. The highly dynamic approach of Bernard Dempsey can be reduced to the following propositions :

1. Capital is a lever of man's control over his environment. Thus, capital means in the last instance, knowledge of the formula of processes that are more efficient than any available alternative for the production of capital goods.

2. Capital formation means the release of natural resources for the embodiment of the formulae of the best alternative methods.

This theory of capital has a certain resemblance with the recent rather changed views of Hayek. We should note that according to B. Dempsey, investing power remains sterile and is rather not capital unless the man who uses it has a superior knowledge and thus is able to make a new investment of a distinctly progressive nature in the most profitable way.

In our opinion, the purely dynamic theory of capital which is typical of the present advanced phase of capitalism and thus very valuable somewhat overstresses the fact that capital disposal must be applied in the most remunerative and progressive way—which can be done only through knowledge of the best alternative

formula. All this is in principle true; yet, one should not overlook the fact that capital does not lose its essence if it is eventually invested in a wrong way on account of an unfortunate miscalculation. We have already seen before that real capital is not depleted when the firm's losses are provisional. In addition, a sum of money is under all conditions elevated to the rank of capital disposal if it is slated for investment of any kind.

The evolutionary theory of capital disposal has a certain affinity with Sombart's functional approach which is likewise very dynamic because it maintains that any circulating real capital good embodying a portion of formal capital represents a potential capital disposal and that this investing power is simply a means of materializing a surplus revenue, in terms of money. So, for instance, a merchandise which rests for a while as a real capital good may be at any time converted into capital disposal since it can be sold. As a result emerges a temporary investing power which will be normally bigger than its antecedent originally invested in the sold commodity. Thus, capital disposal fulfills its function to enable any circulating portion of formal capital to release, from time to time, its accumulated acquisitive energy. Sombart's train of ideas can be in the last analysis reduced to the known formula of Karl Marx : $G-W-G'$ (money—: merchandise —: more money).

Cassel likewise develops a dynamic theory of capital but his standpoint differs inasmuch from any other related approach as according to him capital disposal is a distinct productive agent. He goes even so far in this direction as to assume that capital disposal is an original primary factor of production equal to labor and natural resources so that it is in a sense even more important than real capital. Cassel's theory of capital disposal which has a certain resemblance with that of Jevons can be reduced to the following propositions :

1. One understands by capital disposal the command over a purchasing power or a rather investing capacity which is offered by the savers in the capital market and is acquired by the borrowers as loanable funds.

2. Capital disposal is an independent and even an original factor of production because it is practically synonymous with waiting; without it an efficient round-about way of production would be impossible. Since waiting which means a deliberate abstention from the satisfaction of immediate wants is a personal service that cannot be reduced to something else it should be considered together with capital disposal as an original productive agent. This cannot be, however, said of real capital which is derived from labor and natural resources and thus is a dependent

factor. Waiting represents the negative aspect of capital disposal which would not exist if there were no simultaneous abstinence. Consequently, capital disposal and waiting are in the same way related to each other as two sides of a coin. For this reason, they both are equally and originally productive.

3. Capital disposal is productive because it mobilizes the factors of production of any kind, makes possible an extension of the period of production by introducing an efficient round-about method and enables the producers to wait for the services of a durable material commodity. In other words, capital disposal (or waiting) is productive because any process of production in the strict sense (including man's control over the process of vegetation) as well as any profitable use of durable acquisitive good, takes time. So when an apartment house has to be constructed a capitalist must exercise a double waiting. First, he must furnish capital disposal (reflecting waiting) to enable the construction as such ; secondly he has to wait for a rather long time (that is, must dispose of an additional capital disposal) before he will be able to live on the net revenue derived from the house. It happens seldom that a group of workers can independently finance the construction of an apartment house and still more rarely that having built a house they will wait to receive their wages in the form of capital rent that gradually will come in at some future date. Usually workers get their wages and a capitalist undertakes the special task of waiting by disposing of his investing power.

Cassel's idea that real capital is a derived productive agent while capital disposal is an original primary factor of production since it materializes waiting and thus is a by-far more essential kind of capital is only at the first glance correct. It overstresses the significance of capital disposal for the following two reasons :

1. Investing power is only indirectly productive, while real capital and labor which are mobilized thanks to it (as Cassel himself stresses) are technically and thus directly productive. In other words, the productivity of capital disposal is of a derived nature.

2. Capital disposal is not synonymous with waiting but is its result. In addition, if one decides to consider waiting as an original factor of production since it generates capital disposal one should treat patience in the same way because it maintains man's effort. One can hardly doubt, however, that waiting which just as knowledge and patience is a great productive force still could not be considered as a primary factor of production like real capital or labor. It simply stands behind capital as patience

stands behind labor and thus represents a certain major productive force.

There is still another dynamic theory of capital which does not however pertain to capital disposal but to the capital value of a durable capital good or of an entire real capital and thus concerns formal capital. The main recent contributions to this approach were made by Irving Fisher, Struve, Commons, Myrdal and Veblen. In the last analysis, this interpretation of money capital represents a dynamic theory of formal capital ; its main propositions are the following :

1. Capital is capitalized value of the income expected. J.B. Clark makes this definition more precise by stating that capital is capitalized value of a series of future incomes. G. Myrdal introduces a still more elaborate definition, namely, he says that the capital value is a sum of discounted expectations of future revenues and costs. Any capital value changes when there is a change in the corresponding anticipations.

2. Since appreciation means a difference between two consecutive capital values of the same real capital good, it is a kind of saving but not an income proper. According to Myrdal, saving means an investment so that the gross real investment equals saving proper plus anticipated "value change", that is excess of appreciation over depreciation. Irving Fisher likewise stresses that net appreciation and saving proper are "saved from being income" by being invested.

Myrdal's proposition is useful if we assume the existence of a fixed real capital conceived as a system of definite fixed real capital goods. Some of these goods become more valuable while other among them depreciate. Decisive will be the excess of appreciation over depreciation. Besides, we have to stress that appreciation is a certain kind of saving (and thus of investment) exclusively under the assumption that it lasts during a longer period because only in such a case one could say that something was "saved." Thus, Lindahl's criticism that Myrdal is wrong because appreciation is timeless would be, in a sense, averted.

3. Capitalization of gravely overestimated future incomes derived from securities vesting formal capital especially those obtained from the stock of business corporations usually leads either to inflation or to a sudden redistribution of wealth caused by the bankruptcy of those who owned over-estimated securities.

Capital as capitalized income in terms of money has a distinctly acquisitive nature. This concept is practically used for the estimation of the market value (in the sense of expected price) when a piece of land or a durable acquisitive good, (like an

apartment house) or a strictly productive and specific real capital good, like a highly specialized and a capital rent yielding machine are sold. The most important application of this concept is, however, pertaining to the going capitalist business concern conceived as an entity. The following propositions will clarify this, namely :

1. The earning power, that is, the expected net revenue largely determines the actual capital value of a going business concern. On the other hand, the amount of money capital originally invested in the given business is of no interest to the buyer. The net revenue which is capitalized at the current rate of interest usually represents the average surplus revenue pertaining to a certain period and calculated a posteriori. It can be, however, modified by some positive or negative expectations.

2. If the capital value of the going business concern is bigger than the costs of reproduction of its tangible assets, the excess value represents normally the intangible assets of the given business, roughly its good will. Sometimes such an excess value results not from the socially useful productive investment but from advertising which shifts demand in favor of the given firm. In this case, the buyer may run a serious risk of having overestimated the actual earning capacity of the given business. It happens in our time that advertising and speculation inflate the capital value of a going business concern. In such a case its capital value will be abnormal and will surpass not only the costs of reproduction of its tangible assets but even its capitalized objectively probable earning capacity, so that the goodwill is likewise artificially swollen. This train of ideas can be illustrated as follows :

I. Normal capital value of a firm equals costs of reproduction of its tangible assets plus non-inflated intangible assets (goodwill) and thus equals capitalized objectively probable earning power.

II. Abnormal capital value of a firm equals capitalized objectively probable earning power plus inflated portion of goodwill.

Veblen assumes that under modern capitalistic conditions formal capital or, as he prefers to say, "business capital" is so much inflated by means of watered securities (especially in the case of common stock) that it loses any genuine link with the real capital goods (including factual goodwill) which are supposed to serve as its embodiment. According to his views, an absentee owner tends to increase artificially his formal capital which he can at any time transform into a larger amount of capital disposal and simultaneously to decrease the productive real capital of his country by immobilizing some progressive inventions because a

smaller amount of the real capital goods or their lesser efficiency increase their marginal productivity and thus their profitability. Veblen's aversion for formal capital vested in securities and especially in common stock is rather extreme. Yet, one cannot deny that sometimes securities are estimated at such excessive market values that formal capital outgrows its real background, including the eventual genuine goodwill. Much rarer is the opposite case, namely the actualization of a part of "silent reserves" by means of stock dividend—which raises the formal capital in conformity with an increase in the corporation's real assets. One never should forget that a natural or a non-fictitious equilibrium between formal capital and the corresponding real capital goods possessed by the large number of the given individual economies is virtually as important as an equilibrium between national money income and national real income. The theory of inflated or "watered" formal capital vested in securities was considerably developed by Veblen in America and Ferdinand Fried in Germany. Both of them tend to stress that there is a conflict between industry based on productive physical real capital and business based on "parasitic" pecuniary formal capital. This train of ideas adopted in particular by most Fascist economists represents a reaction against the current financial phase of capitalism and a certain longing for the previous industrial phase which is supposed to have a greater resemblance with the idealized socialism of tomorrow.

In the case of monopoly "stock watering" will necessarily produce high prices of the given products because dividend must be paid with regard to an inflated formal capital and this can be done since the firm will be powerful enough to enforce its prices.

We discussed upto this point only those theories of capital which in the last analysis pertain to material wealth. The only exception was represented by the concept of personal capital in Pareto's sense which was rejected by us since it identified capital with labor. There are, however, some other concepts of immaterial capital which could be accepted by us with some reservations. The best contributions to the problem of immaterial capital were made by List, Adam Mueller, Marshall and Spann. Some economists maintain, however, that any dynamic theory of capital could be looked upon as a certain interpretation of immaterial capital because each approach of this kind is based on the idea of power or control. Yet, we cannot, share this standpoint. The reason is that each representative of any regular dynamic approach to the concept of capital, like Cassel, Schumpeter, Fetter, etc. speak only about a purchasing power or an investing capacity, which is closely linked with the idea of assignment.

In other words, such a power in terms of money assigns its holder to a material wealth. On the other hand, any representative of a genuine theory of immaterial capital pays a particular attention to some productive forces, like knowledge, or traditions which possess an original usefulness. List considers also fine arts as a portion of national immaterial capital. According to Adam Mueller, the most typical "spiritual capitalists" are scholars and priests because they derive an original income from their knowledge and intuition. Besides, Adam Mueller, like Roscher, maintains that also the state is a certain immaterial capital because it is a great man-made productive force which is indispensable for any national economy since it creates "community maturity" (in Spann's terminology) and thus holds together the system of individual economies.

The question how a complex capitalistic national economy can be maintained as a distinct whole is answered in the last analysis in three different ways :

1. *Atomistic*, individualistic, or mechanistic approach represented, for instance, by Schumpeter, Cassel, Struve, holds the price system for the main link.

2. *Socio-legalistic* or institutional approach as developed, for instance, by Karl Diehl, Max Weber, and Commons considers the socio-economic institutions, like contracts and commercial customs as the main binding factor.

3. *Universalistic* or romantic approach, represented by Adam Mueller and Spann considers the government as the main link. In particular, Spann defines the state as "capital of a superior order" because he assumes that without its protection no commodity can become ripe for its final consumption.

The first approach pertains exclusively to an abstract money exchange economy ; the last one to a real national economy while the second approach is rather intermediate. The most modern and developed theory of immaterial capital is presented by Spann. In particular, he introduces some new terms, like "fore-capital" or "negative-capital." By fore-capital, he understands any institution such as a university or laboratory which helps to prepare the production of any wealth. On the other hand, every factor enabling to remove an obstacle or to diminish loss, like, for instance, a contract is defined by Spann as "negative capital." It is evident that Spann's theory of immaterial capital reflects his formerly discussed theory of production.

It seems to us that the concept of immaterial capital is logical and should be upheld, provided that we use it with regard to an individual and understand by this term only a man-made composite productive force of a non-monetary immaterial nature which

serves as a source of income. So, for instance, it would be wrong to assign to this category some inborn capacities of an individual like intuition, talent, beauty, etc. On the other hand any man-made productive force, possessed by an individual, like for instance, knowledge, manners, even perhaps "talk", could be interpreted as a capital good "*sui generis*." Thus, immaterial capital of an individual represents a system of some acquisitive internal goods which he possesses, thanks to a certain effort.

The above discussed three main concepts of capital are closely interrelated :

1. Capital disposal creates formal capital while this investing power itself is formed when formal capital or its part are disinvested. In addition, a portion of formal capital can be embodied by a latent capital disposal as cash.

2. Formal capital is embodied by the real capital goods, (including saleable, intangible assets) which in a sense accumulate acquisitive energy. If some of these goods are sold, investing power (*i.e.*, capital disposal) reappears. Thus, capital disposal serves as a certain organic link between real and formal capital. In the last analysis, all three forms of capital constitute a distinct peculiar triad, which in a large measure depends upon the immaterial capital good "knowledge." In addition, the fact that from the standpoint of the capitalistic national economy as a whole, real capital must be a source of acquisition, since it participates in the process of production in any sense, virtually unites the concepts of the socio-economic productive capital in the narrower sense and of the private acquisitive capital under one distinct heading—real capital.

If we wanted to unify still more the concept of capital (including the purely immaterial capital) we could define it as "a man-formed means which ultimately renders an indirect service." This definition fits not only real capital but also any kind of money capital because capital disposal and formal capital are useful only on account of their derived productivity and represent a distinct "man-formed" auxiliary means.

CHAPTER XVII

CREDIT

Credit transaction is an advance of material goods, services or money (usually as capital disposal) for a repayment at a later date which normally, but not necessarily, is supplemented by the payment of a gross interest.

In a cash transaction there are only two elements, the goods sold and the money paid for them ; here a third element is added, namely time in terms of remunerated waiting. Very often, there is still a fourth element: risk which comes into consideration and requires suitable remuneration. There are, however, some exceptional cases when a credit transaction does not involve an interest payment. For instance, a grocer sometimes grants a personal credit to his regular customer without requiring any explicit remuneration for his short term waiting and vague feeling of uncertainty.

The most important problem involved in the theory of credit is the question whether capital disposal conceived as loanable funds can be created by a private bank or whether such a financial institution is able only to distribute capital disposal derived from people's saving. Thus far, this problem is highly controversial in economic theory.

There are four approaches :

- I. *Classical*, represented by Ricardo, John S. Mill and in our time in a modernized form by Mentor Bouniatian, Thomas Carver, James Stephenson, etc.
- II. *Dynamic*, advocated by Schumpeter, Albert Hahn, Frederick Taussig, D.H. Robertson, Wicksell, Mises, etc.
- III. *Intermediate*, represented by us and in a somewhat differentiated version by C.A. Phillips, Harold Logan, Samuelson, Roy Westerfield, etc.
- IV. *Inflationary*, introduced by Veblen.

The first approach denies that credit can be ever created "by a stroke of the pen." It is represented by bankers and advocated in a clear way by the French-Russian economist Mentor Bouniatian. This school of thought, defined by Schumpeter as "the Commercial theory of banking", rejects the

contention that credit can be manufactured or inflated by a private commercial bank. Its main ideas can be reduced to the following propositions :

1. There can be no "credit creation" (in the terminology of Pigou) because bankers are able to lend only what was entrusted to them by depositors as their savings. In other words, commercial banks can only redistribute as middlemen the already existing capital disposal (as loanable funds) which they have received from the savers plus the comparatively small amount provided as capital by their shareholders. There is no manufacturing of loanable funds because each bank is handicapped by its liquidity status ; should it expand its credit artificially, it will be involved in clearing house difficulties and will lose its entire cash reserve to other more conservative financial institutions.

If, however, in spite of this fact one can say that credit is productive, the reason is that it places the aggregate saved investing power into more efficient hands and thus invigorates the economic life of the community. Still, St. Simon said that credit is a revolutionizing principle because it emancipates purchasing power from the control of the idle.

2. A commercial bank is a clearing agent for the community and enables it to economize money by introducing money substitutes. These money substitutes may be passive like the process of clearing itself or active, like checks. The clearing house acts in the same capacity for the banks.

3. Capital disposal is prior to credit and not vice versa because credit only actualizes the available loanable funds. Besides, deposit accounts seldom are distinct means of circulation (*i.e.*, money substitutes); they are usually investments.

4. The central bank operated by the state may create loanable funds. This implies a simultaneous artificial injection of the means of assignment. In addition, it is stressed that under a genuine gold standard even such a development is hardly probable.

According to the classical economists, in particular Ricardo and J.S. Mill, credit is a passive phenomenon because it simply transfers from one person to another in a productive way the existing capital disposal derived from savings. Their modern followers, however, like Bouniatian admit that credit expands the saved capital disposal even if it does not literally create it. This admission makes their standpoint quite modern but less consistent and still not exactly satisfactory.

Before criticizing the classical theory of credit, it is desirable to look at the opposite view which is represented by the so-called dynamic or "fiduciary" theory of credit. Schumpeter defines this approach as "investment theory of banking." The first economist who introduced this train of ideas was Proudhon. He maintained that it is possible to finance production without capital disposal derived from saving. Thus, he first presented the idea that credit could be prior to capital and not vice versa. The main conclusion drawn by Proudhon was that the payment of interest should be abolished. Proudhon's theory of credit remained neglected for a long time; it became important when it was modified and modernized by the well-known Scotch banker, Henry Macleod in 1889. At present, there is an almost universal belief that "credit" (loanable funds) can be created and even inflated by commercial banks. The most influential modern representatives of this school of thought are Schumpeter, Hahn, Hawtrey, Pigou, Wicksell, Hayek, Taussig, D.H. Robertson and Mises. As to Keynes, he likewise belonged to this group for a long time but about 1936 changed his position somewhat and became reluctant to admit that a bank can create loanable funds.

The dynamic theory of credit can be reduced to the following propositions :

1. A commercial bank is not a "professional debtor" who redistributes the existent loanable funds obtained from savers (as is assumed by the classical approach). It derives its surplus revenue chiefly from lending its "promises to pay" which it cannot redeem at once because quite a few promises do not replace sums of money that previously circulated. In other words, not every deposit account held by the bank is genuine (derived from saving); some are created.

2. A dynamic capitalistic entrepreneur is a debtor by the nature of his function. Consequently, he borrows from a bank what he simultaneously deposits. In such a case, an asset creates a liability so that credit is prior to capital. The essential function of credit is to enable the entrepreneur to withdraw the producers' goods from their previous task (or employment) and thus to force economic activity into new channels. In other words, using Schumpeter's terminology, the entrepreneurs—through credit are given access to the stream of the social product before they have acquired the normal claim to it. Thus, credit creation does not directly increase the wealth of the community.

3. In so far as credit cannot be given out of reservoirs of investing power created by past development, it has to consist of credit notes or means of payment which are backed neither by money in the strict sense nor by products already in existence. These credit-means are simply created out of nothing "by a stroke

of the pen" and if their amount is too large they will cause credit inflation which will lead to a cumulative price rise. Sometimes, however, credit creation does not literally mean inflation. There will be only no simultaneous appearance of purchasing power and corresponding commodities. In other words, in such a case, the increase of investing capacity will only somewhat precede the increase in the current flow of goods.

4. The main task of deposit accounts held by commercial banks is not to serve as an investment but as a money substitute. If such means of payment actualize an artificially created capital disposal, they transform credit into a lever of productive activity.

5. There is no credit in a static economy.

The dynamic theory of credit maintains wrongly that there is no credit under static conditions. This is, however, consistent since it refutes also the existence of interest in a static economy. Besides, it somewhat exaggerates the role played by credit creation in a modern dynamic economy. Yet, it is superior to the modernized classical approach because one cannot deny that a typical modern bank statement shows that demand deposits are roughly 5-6 times larger than cash reserves. Professor Bouniatian admits himself that a ratio of deposits to cash reserve of a modern commercial bank is four to one. Still, he insists that there is no credit creation whatsoever because according to him a thousand dollar deposit made by a saver only generates a greater turnover of goods by returning to the bank three times as a nominally new deposit. In other words, when a bank receives from a saver an amount of money it lends it immediately to a producer; this person uses the loan to buy some raw materials; the seller of those raw materials deposits the given sum with the bank as if it were a new deposit, etc. Bouniatian stresses that for this reason credit is productive since the given fixed amount of money serves as a basis for a multifold expansion of the deposit. This contention of Bouniatian is correct but not quite consistent. One cannot say the above-mentioned development, namely the fact that the original saving multiplied itself in a system of inter-related banks is only a "technical aspect of a regular credit transaction" and that there was no creation of new purchasing power. The main fallacy of the modernized classical theory of credit is its unwillingness to admit that when a saved amount of money deposited with a commercial bank gives birth to several new deposits, there is already a certain peculiar creation of credit. This fact is, however, well realized by some economists, like C.A. Phillips or Harold Logan who represent a certain influential faction of the intermediate approach. According to another version of this approach which we may define as "synthetic" one has to make a distinction between the two following kinds of bank credit creation.

1. Credit creation in the narrow sense or direct creation of credit which means a conscious, literal creation of loanable funds "by a stroke of the pen" in Hahn's terminology. Such a procedure is usually inflationary and is carried out by a large multiple branch commercial bank. Here credit is prior to capital because an asset creates a liability.

2. Credit creation in the broad sense which means an automatic less conspicuous expansion of investing power through credit. Such a procedure is based on clearing and is carried out by a system of interrelated banks. Here capital is prior to credit. In other words, any loan can be traced back to an original deposit derived from regular saving.

Credit creation by a system of banks is very typical of modern times. The fact that a single large bank would be reluctant to multiply deposits far in excess of its cash holdings even if there were no legal reserves does not imply that all banks in the system cannot increase their loans and deposits at the same rate and thus multiply them greatly in excess of the amount of capital disposal obtained from savers. Credit creation carried out by a system of banks may be illustrated in the following very simplified manner

<i>Bank</i>	<i>Deposits</i>	<i>Reserves</i>	<i>Loans</i>
A	\$1,000.00	\$100.00	\$900.00
B	900.00	90.00	810.00
C	810.00	81.00	729.00
D	729.00	72.90	656.10

It is assumed here that 10% of the incoming funds are held as legal or prudential reserve and the remaining 90% are lent by bank. The example shows that the major part of the new \$1,000 cash deposited with bank A overflows from bank to bank. Each bank is, in Samuelson's terminology, a "generation bank" of a certain order. For instance, bank B acts as a second generator. When the entire original \$1,000 are diffused throughout the banking system, deposits will amount to \$10,000, reserves to \$1,000 and loans to \$9,000. In this example the interest charged by the banks and the fact that a part of the original \$1,000 would flow back to Bank A and thus enable it to make additional loans are disregarded. Also the leakages in the chain of transactions, for instance, the eventual hoarding is not considered. Such a simplification does not, however, affect the fundamental process. From a study of this example, it is apparent that a certain amount of capital disposal derived from saving serves as a basis for a multifold expansion of loans and deposits.* No modern theory of credit overlooks such a development; yet, the dynamic school

* Virtually one has to do in this case with a multiplier which will depend upon the relationship between the bank's propensity to spend versus some leakages (chiefly desire to keep large cash reserves).

puts emphasis on credit creation in the narrow sense while the modernized classical theory of credit fails to realize that this process creates purchasing power which is far in excess of the originally saved capital disposal. Bouniatian is theoretically right when he says that such an expansion of deposits does not imply a "credit inflation" (the concept which he in principle rejects) because each credit transaction in the above-cited case pre-supposes an increase in the current flow of goods. Yet, one cannot share his views when he maintains that in this case there is no creation of loanable funds at all. The whole procedure proves that even under Bouniatian's own assumptions, there is normally a certain creation of bank credit. Only in conformity with his general train of ideas this credit creation ought to be considered as an exclusively group (*i.e.*, system) phenomenon. On the other hand, any credit creation by an individual bank taken outside of a system of banks is really incompatible with the classical theory of credit, provided, of course, that the given bank is not the only bank in the community, that is, is not a monopolist who would practically function as a system himself.

There is no doubt that credit creation in the strict sense can be ventured also by a single large multiple-branch bank which is not a monopolist but possesses considerable cash reserves. This would not be, however, on such a large scale as is assumed by some representatives of the dynamic approach, like, for instance, Hahn and Hawtrey. Another important pre-requisite is that the given bank enjoys a large concentration of payments in its own hands. Such credit creation can be seriously restricted by the necessity to hold regular reserves; yet, it will not entirely disappear unless these reserves assume large proportions. The present American legislation requires each bank to hold regular reserves that equal from 14 to 20% of its demand deposits. Thus, direct credit creation in the U.S.A. meets with a serious institutional obstruction which, however, does not make it impossible. A simplified numerical example based on the assumption that there is a large concentration of payments within a certain bank will confirm this statement. The other main assumption will be that the bank is required to hold regular reserves amounting to 20% of its demand deposits. Under such conditions, the first simplified balance sheet of the hypothetical bank will look as follows:

ASSETS		LIABILITIES	
Cash	\$ 50,000	Own Funds	\$ 50,000
Legal Reserves	40,000	Demand Deposits	
Loans	160,000	Derived from Saving	200,000
<hr/>		<hr/>	
Total	250,000	Total	250,000

In the second year the bank may venture to create by a stroke of the pen additional loanable funds amounting to \$100,000.

and simultaneously acquires for \$5,000 some securities whose market value will be doubled on account of the ensuing price rise. Besides the financial institution may be a second generation bank so that it received a demand deposit amounting to \$50,000 which represents credit creation in a broad sense. Under such conditions, the second balance sheet of the now more aggressive bank will be as follows :

ASSETS		LIABILITIES	
Cash	\$ 25,000	Own Funds	50,000
Securities	5,000	Demand Deposits	
Legal Reserves	70,000	derived from Saving	200,000
Loans	200,000	Demand Deposits	
Injected Purchasing		derived from Credit	
Power as Claims of		Creation in the	
the Bank	100,000	broader sense	50,000
		Directly created De-	
		mand deposits (80%	
		literally created)	100,000
Total	400,000	Total	400,000

In the third year the hypothetical bank may sell inflated securities at \$10,000 and get 5% interest on the loans which it granted in connection with both kinds of credit creation. All proceeds amounting to \$17,000 are used to extend credit creation in the narrow sense. Furthermore, we assume that credit creation carried out in the previous year generates in the present year a credit creation in the broad sense. In addition, new securities are acquired for \$5,000. Under all these assumptions, the third balance sheet of the hypothetical bank will look as follows :

ASSETS		LIABILITIES	
Cash	\$20,000	Own Funds	50,000
Securities	5,000	Demand Deposits	
Legal Reserves	87,000	derived from Saving	200,000
Loans	200,000	Demand Deposits derived from	
Directly Injected	85,000	Credit creation in broader	
Purchasing Power		sense	50,000
*Formerly In-		Surplus revenue retained as	
jected Purchasing		Reserve Capital	12,000
Power	100,000	*Directly Created Demand	...
		Deposits	185,000
Total	497,000		\$ 497,000

*This is claim of the bank against the same borrowers as before.

*Demand Deposits artificially created by means of a *second* generation amount to \$100,000.

These examples show that credit creation in the narrow sense is based on bank funds conceived as cash reserves, on the proceeds from inflated securities acquired in connection with credit creation and on interest obtained in particular from artificially created loanable funds. The cash reserves of a bank do not represent a static phenomenon ; on the contrary, they can be increased if the bank is able to increase its own funds or to inflate the market value of its bonds. Finally, if there is an increase in long-term deposits, part of the incoming funds can be retained by the bank as an addition to its cash reserves. On the other hand, credit creation in the narrow sense is seriously restricted by legal reserves which could eventually become prohibitive and by the natural tendency of each bank to guard its liquidity. One can assume that any large multiple-branch bank will not overlook the fact that it could be ruined if a rush occurred unless it keeps the conventional reserve ratio. Yet, the voluntary reserves can eventually be neglected for a short period if the bank is certain that it will not have adverse clearing house balances since reserves of this kind are not institutionally fixed. Credit creation in the narrow sense for all these reasons does not in reality assume such a size as is often believed. The trend may be against it, as was conceded by Schumpeter.

The reasons for all these contentions are the following :

1. Quite a few presumably created deposit accounts are too short-termed to be able to serve speculative purposes or to inject an aggressive investing power in favor of dynamic entrepreneurs. They are so short lived that it would be too expensive for the banks's customers to solicit their creation. Bouniatian explains that such accounts usually represent either some moving reserves entrusted temporarily to the bank by another bank or strictly private wandering capital disposal which still seeks investment opportunity.

2. A constantly growing tendency of modern large business corporations to finance themselves by building up reserves out of profit makes them less dependent upon bank credit (in particular upon credit creation) so that the modern entrepreneur may cease to be a "professional debtor." On the other hand, a commercial bank as a caretaker of savings will always remain a distinct professional borrower as was duly stressed by Frederick Leitner.

It is likewise important to note that in our time of increasing state interference connected with "Deficit spending" Government may counterbalance the decrease in demand for the created capital disposal by private corporations.

Lester Chandler who ultimately belongs to the intermediate school since he admits that the larger part of deposits

originates as banks give them "in exchange for the debts of the other" and that there is a multiple expansion of deposits by the system of banks, contends (in a sense correctly) that credit creation in a broad sense is a logical sequel of the credit creation in a narrow sense.

As noted before a consistent interpretation of the modernized classical theory of credit should exclude only the idea of credit inflation, which is linked with credit creation in the strict sense but not the idea of credit creation in the broad sense since such a process is based ultimately on regular saving. On the other hand, the dynamic theory of credit which stresses considerable credit creation by an individual bank should accept openly the possibility of an inflationary injection of purchasing power. It is rather surprising that Schumpeter who is rightly considered one of the leading representatives of the dynamic theory of credit and who perhaps first declared that an asset of a bank conceived as a loan can generate a corresponding item among the bank's liabilities (*i.e.*, a deposit) tends to deny that credit creation in the narrow sense frequently produces credit inflation. Schumpeter's position can be summed up as follows :

1. Sometimes credit creation is connected with consumer credit. In such a case, new spending power takes its place beside the old; the price level rises, the goods bought by a credit receiver are consumed but created purchasing power remains in circulation and tends to raise prices permanently unless the inflated purchasing power is artificially or rather intentionally decreased through taxes.

It is evident that this case is by far more typical of regular money inflation than of credit inflation because until recently credit creation was comparatively little associated with final consumption. Besides, production of the goods in such a case may rise in the long run and thus lower the prices.

2. Credit creation in the narrow sense usually finances dynamic entrepreneurs. Under such conditions, there can be no inflation in terms of a permanently rising price level because commodities produced by credit receivers will absorb the newly created investing power.

Schumpeter's tendency to minimize the connection of credit creation in the narrow sense with inflation is hardly acceptable for several reasons :

1. Schumpeter admits that when the commercial banks create claims against themselves in order to enable entrepreneurs to acquire the existent factors of production, there usually will be a temporary increase in the price level because credit receivers

will use their purchasing power as a weapon against other bearers of the respective demand. Thus, such a credit creation implies at least a temporary and moderate inflationary process even if there is a certain under-employment of the factors.

2. The production of new commodities which could absorb the newly created purchasing power takes time so that the initial unavoidable rise in prices (unless there is a considerable unemployment of factors) may easily be prolonged.

3. Any entrepreneur who received the newly created capital disposal must succeed in producing goods whose realized market price will enable him to repay the loan and to cover the bank charges. Otherwise, if some entrepreneurs fail to succeed a portion of the newly created purchasing power will necessarily be inflationary.

For all these reasons, a dynamic economist, like Hahn or Wicksell would assume that direct credit creation is normally inflationary.

It appears that the concept of "forced saving" is arbitrarily used by the dynamic theory of credit. Usually the representatives of this approach, in particular Wicksell, Pigou and Hayek, understand by forced or compulsory saving the shifting of the factors of production, especially of raw materials from the production of consumers' goods to the production of producers' goods which happens when credit creation gives additional inflationary purchasing power to dynamic entrepreneurs. This contention is correct provided that "forced saving" is identified with one of the possible kinds of dynamic saving and the process of saving is considered exclusively from the standpoint of the national economy as a whole. Otherwise, Hawtrey will be right that this process does not represent saving but a peculiar contribution. When, for instance, the government provokes money inflation, it virtually levies a "capital tax" or a tax on the private fluid wealth. Roughly, the same thing happens in the present case. When a bank creates artificial purchasing power "out of the air" (to use Taussig's terminology) either in favour of dynamic entrepreneurs or to the benefit of the so-called "deficit spending" (provided, of course, that the state likewise acts as a bearer of effective demand for the existent productive agents) every consumer bears the brunt of the ensuing price rise and in a sense contributes to the credit receivers as well as to the workers who produce the additional factors of production. The distinction between forced saving as a result of an inflationary credit creation and a voluntary saving (*i.e.*, an intentional pre-mediated deferment of consumption) can be best explained by the following scheme :

1. In the case of a voluntary saving, the saver consciously "saves" a portion of his money income, *i.e.*, does not spend on consumption a certain amount of his purchasing power. From the standpoint of the given community, a saver practically saves goods which he does not buy.

When the saved purchasing power is lent, some other persons usually the workers employed by the borrowing entrepreneur spend the saved capital disposal on goods. The prices of the consumers' goods will not rise if the spending power was simply shifted from one person to another. This is especially true when saving virtually increases the purchasing power of the labor force already employed by the industries producing the means of production. Here will be at the most a very insignificant increase in prices if the savers were accustomed previously to hoard a portion of their income or to buy luxury goods.

There can be, however, the following two major complications :

(a) On account of full employment some workers are shifted from the production of consumption goods to the additional production of producers' goods. The supply of consumers' goods will decrease but their price will hardly rise very much if this tendency is offset by a simultaneous decrease of the consumption on behalf of the savers; otherwise, the scarcer consumer's goods will necessarily and seriously rise in price.

(b) There is no full employment of labor so that an increase in employment caused by saving stimulates effective demand for consumer's goods. In such a case there can be a considerable increase in prices, which, however, may be partly offset by the decreased demand of the savers. Besides, the prices will not rise to quite the same degree if in this case there is an underemployment of material resources.

2. In the case of credit creation, which frequently takes place under roughly full employment the entrepreneurs as credit receivers shift the workers from the production of consumers' goods to the additional production of producers' goods. Under such conditions but especially when there is a really full employment the ensuing decrease in production of consumption goods will raise their prices considerably because there will be no savers who would simultaneously drop their effective demand. Usually this process is cumulative because wages tend to rise and thus raise costs.

Forced saving in the above-mentioned Wicksellian sense is, however, a dynamic saving only from the standpoint of the national economy as a whole because an individual does not in

such a case defer his consumption literally but only experiences a cut in his current consumption for the benefit of the nation's real capital which is enabled to grow. There are, however, some cases when the term forced saving can be used literally, namely :

1. The whole modern social insurance is a compulsory saving to which some receivers of a comparatively satisfactory current income are subjected in order to provide for their future wants which otherwise might be neglected. Sometimes this measure defers the consumption of the given person to the benefit of his heirs.

2. The modern practice of the big corporations to build up large surpluses by curtailing the annual dividend payments. This procedure defined as "self financing" or "ploughing back" may defer the consumption of the shareholders in a very radical way.

This development can be, however, offset if the increase in the firm's capital reserves raises the book-value of the shares and the given shareholders sell them at the new higher price while using the proceeds for their immediate consumption.

It should be still noted that the plan of Keynes to "freeze" during the World War II a part of regular wages, on a scale graduated to income, as an interest-bearing deposit account which would be liquidated "in instalments" after the war, likewise belonged to the realm of a genuine forced saving.

The representatives of the dynamic theory of credit who attribute a significance to credit creation in the narrow sense have a serious divergence of opinion with regard to its ultimate effects. While some of them consider this process as beneficial, quite a few members of the school are extremely hostile to this institution and suggest its immediate modification or even abolition. In the last analysis one can distinguish between the five following approaches :

1. Some economists, like Hahn, Hans Neisser and in a lesser measure Schumpeter approve in principle such credit creation. According to them, it produces an aggressive purchasing power and for this reason can be regarded as the primary lever of the entire economic life of a nation. A moderate inflation provoked by such a process appears to them as an especially invigorating and thus a beneficial phenomenon. In particular, this is supposed to be true in the case of a depression.

2. Other economists, like Alvin Hansen, Fritz K. Mann, J.M. Clark and in the last analysis also, Keynes, approve of a

credit creation of an inflationary nature if it serves as a tool of pump priming, provided that a previous decline of the money rate of interest did not stimulate the scared private initiative. They assume that under such conditions an aggressive credit creation enabling the state to arrange some stimulating public works will do much good to the whole community, especially when there is a considerable under-employment of the factors. In this latter case, there can be according to them at the most a slight increase in the prices of the factors but the entire economic activity will be through such an action brought out of an artificial lethargy. This train of ideas was familiar still to Malthus.

The main difference between this approach and the previous one is that here the state as procurer of pump priming is considered as the leading tool of the aggressive credit creation but not the dynamic entrepreneur.

3. Some economists, like Wicksell, Mises, Hayek, Hawtrey, Cassel, etc. disapprove of credit creation for economic reasons or at least do not sympathize with it. So Wicksell assumes that this phenomenon makes money aggressive, provokes a discrepancy between rates of natural and money interest and thus leads to a disturbing cyclical restlessness of the price level. Also Hawtrey believes that business cycles will disappear as soon as the instability of bank credit (connected with the credit creation in narrow sense) is abolished.

According to Hayek an extreme elasticity of bank credit results ultimately in a grave destruction of a portion of business capital since quite a few specific factors of production depreciate (usually after a boom connected with credit creation) as soon as the non-specific complementary agents start to return to the later stages of production. In general, Hayek assumes that "forced saving" brings about a change in the structure of production that cannot be permanent. Mises and Arthur Spiethoff maintain that unwarranted (*i.e.* inflated) loans necessarily provoke a crisis because they unduly lengthen the process of production to the detriment of the production of consumer's goods. The result is that before the real capital goods are converted into finished products the means of subsistence for the workers are exhausted and the production that has been entered upon must be given up. They mean here practically a certain horizontal maladjustment of production.

According to Cassel, banks create capital disposal at an uneven rate and destroy it likewise by leaps and bounds, thus causing and enhancing the violent business fluctuations. Yet, it should be admitted that Cassel attributes a much lesser importance to the credit creation than to the ordinary process of saving.

In general, it is typical of the third approach that all its representatives criticize credit creation on account of its apparent tendency to accentuate or to provoke business fluctuations.

4. Some economists, like Hawtrey, or Burnam Beckwith, disapprove of credit creation in the narrower sense because it produces according to them the negative "forced saving" in the Wicksellian sense and thus is a socially unjust phenomenon. In particular, Beckwith insists that the determination of the volume of saving should be entirely voluntary since each individual is his own best judge of "the marginal point" where disutility equals utility of saving. He maintains that the burden of forced saving is like a general sales tax which falls upon labor.

5. Some British Christian Socialists, like Rev. V.A. Demant and Catholic economists, like Rev. Bernard Dempsey, disapprove of credit creation for ethical as well as economic reasons. According to them, the banks must be limited in their lending power to the amount entrusted to them by their borrowers. In particular, interest paid on artificial investing power is equal to usury. This contention is, however, criticized in particular by Westerfield who means that in such a case interest is not supposed to be a payment for the use of capital disposal but a remuneration for a service rendered to the given borrower. Some lay economists who come close to Dempsey's standpoint, like, for instance, Gardiner Means or Major Douglas do not deny that credit creation in the narrower sense is partly useful but want to mitigate it by socializing this function of the private credit institutions in favor of the state. According to them banks have usurped an essential function of government which alone should be entitled to create purchasing power.

The main negative attribute of the direct credit creation is its inflationary tinge. Veblen made a lasting contribution to the theory of credit by emphasizing that in the actual financial phase of capitalism the creation of an artificial investing power tends to cause not only swelling of money substitutes and thus a certain credit inflation but also an abnormal rise of the market value of securities which vest formal capital. The main idea of Veblen can be summarized as follows : credit is a pecuniary, not an industrial fact. It expands business capital of the borrowing firm by enhancing the market value of its securities and provokes a price inflation because it swells the volume of business as counted in terms of price but does not raise the "volume of industry." In other words, Veblen assumes that a firm which is a credit receiver bids up the goods (usually factors of production) by the use of funds obtained on credit so that the market value of its assets rises, raises formal capital, which is

embodied by them and thus enhances the market value of securities that vest the given business capital. Yet, each firm uses its formal capital as collateral when it borrows. Thus, credit inflation which represents a certain kind of price inflation is constantly fed by a continuous increase in the market value of the firm's securities. Very soon the exchange value of securities which vest formal capital begins to rise faster than that of the real assets. This development which is distinctly cumulative provokes a serious disequilibrium between formal capital and real capital that is supposed to embody it. Of course, an artificial equilibrium between these two kinds of capital will be brought about on the books by the given firm. Yet, such a fictitious equilibrium means that the intangible assets (*i.e.* goodwill) of the firm are estimated at an inflated market value which enables them to serve as a first rate basis for a further credit expansion. In other words, there is a constant interaction of credit inflation and inflation of formal capital whereby inflated goodwill being a fictitious symbol of solvency serves like a powerful motor. Veblen stresses correctly that in the case of inflated market value of securities which vest formal capital, this capital has to outgrow the capitalized actual earning capacity of the firm. Thus, goodwill will be inflated because a sound (*i.e.* genuine) goodwill can be represented only by the excess of capitalized actual earning capacity of the firm over the reproduction costs of its assets. In the given case, however, the presumed goodwill is practically divorced from the actual earning capacity of the given firm.

Veblen's theory of credit has practically the entire dynamic theory of credit in its background. Yet, it is especially congenial to the actual financial phase of capitalism in which the vendible securities, that vest formal capital, represent an important merchandise. Furthermore, very modern is his idea that price inflation can be deepened by an inflation of formal capital. On the other hand, Veblen's theory of credit rather suffers from having a distinct exploitative bias. Namely, he believes that the "pecuniary magnates" (that is, genuine businessmen) tend to inflate their intangible assets while pretending that their firms have an "earning capacity" which does not correspond to reality. Besides, in the present oligopolistic epoch when, according to him, the firms have an agreement with each other which practically makes impossible any discriminatory advantage, almost every advertized goodwill must be of a fictitious inflationary character because goodwill in principle implies that the given firm has a certain differential advantage as a competitor in business which is here in his opinion necessarily ruled out. It is interesting to note that in contradistinction to Veblen who is in general opposed to any kind of vested financial interests,

John R. Commons selects for the target of his criticism the bankers whom he defines as "specialists in scarcity" and thus as professional exploiters. Both of these American institutional economists are moved by the same motive to condemn the present financial phase of capitalism. Yet, they come in a sense, to a different conclusion because it seems that according to Commons there is no major credit creation.

There are still some minor reasons for criticizing Veblen's theory of credit, namely :

1. A loan obtained by a firm is not necessarily based on the securities as collateral. It could be eventually based on the firm's tangible assets which Veblen defines as "industrial material." One cannot, however, deny that Veblen's assumption has rather a high degree of probability in our time.

2. Veblen goes too far when he assumes that goodwill as a symbol of solvency can be easily used as a basis for the credit extension at any time since the bank which gives credit can be very exacting with regard to the offered collateral.

3. The inflation of formal capital vested in marketable securities can be caused also by a pure speculation on the stock exchange which will not be connected with credit creation.

In contradistinction to productive credit, that finances one's demand for real capital goods and services which serve as a source of revenue, consumer credit conceived as a modern instalment credit, finances one's demand for durable consumption goods, like an automobile, furniture, sewing machine, etc. This kind of credit deepens the given phase of the business cycle as Rolf Nugent rightly says because during prosperity it increases sales and during depression it decreases them. The latter case is due to the fact that the consumers tend at this time to liquidate debts contracted during the period of prosperity. *Not the amount of consumer credit is especially important from the standpoint of the national economy as a whole since it is comparatively not too big (about \$31 billion in 1956 in America) but its fluctuations or responsiveness to the business cycle, *i.e.* its "cycle elasticity". Gottfried Haberler stresses the following two dangers of consumer credit :

1. It induces even an individual with a negative time preference to develop satisfaction of present wants to the detriment of future wants. He consumes ahead of time and must repay his debt (or installments) out of his future earnings. In other words, consumer credit taxes individual's money income.

* There will be also a decrease in propensity to consume because many persons will have to pay instalments at the time when their incomes decrease.

2. It induces the development of effective demand for durable consumption goods to the detriment of non-durable consumer's goods which are less sensitive to the business cycle.

Any kind of durable goods favors cyclical fluctuations provided these goods are subjected to a regular amortization because once such goods have been produced the demand for them has been in principle satisfied for several years to come and their normal production is reduced to the annual replacement quota. Yet, when the effective demand for the final non-durable consumption goods or for the services of the durable consumption goods rises there will be a distinct necessity to produce a larger amount of durable goods. Suppose that the annual amortization quota is 10% and the effective demand for the respective durable goods increases likewise by 10%; in this case their output for one year must be raised to twice the former amount which was only the replacement quota. As soon as the effective demand in question decreases the output of the respective durable goods must be reduced to whatever the new replacement quota may be. This development was especially elucidated by Aftalion and Spiethoff in the so-called theory of the "accelerator" which was later further developed in Anglo-American literature by J.M. Clark and Roy Harrod.

Installment credit is especially dangerous when there is an inflation in particular due to a shortage of goods because it increases the spending power in a rather artificial way. For this reason, the government tends to combat inflationary effects of instalment credit by increasing through law the percentage of down payment and by shortening the repayment period. Haberler believes that a manipulated installment credit could develop as a good rational means of mitigating cyclical fluctuations. On the other hand, consumer credit as such will hardly ever cause an inflation.

CHAPTER XVIII

INTEREST

Since interest is a complex phenomenon which should be treated simultaneously as a naturalistic and a monetary problem, the best way to analyze it is to introduce a scale of approximations which leads from the concept of natural interest as it appears in a barter economy to a money interest that is important under conditions of a highly dynamic modern economic life.

The first approximation to the concept of interest can be reduced to the following propositions :

1. A durable yet non-permanent (*i.e.* reproducible) and technically productive economic good (no matter whether it is a man-made commodity or a man-touched natural resource) may serve as a source of revenue by yielding a surplus product. Such a real or physical yield is a logical category and should be defined as "capital yield." It is the source of natural interest and at the margin equals it.

2. Natural interest is in principle the payment for the use of a technically productive real capital good which is expected to bring a capital yield. Wicksell expresses the same idea by saying that natural interest in the above sense is such a rate of interest as would be determined by supply and demand if the real capital was lent in kind without the intervention of money, that is, under comparatively stable economic conditions because monetary disturbances would not take place.

3. Natural interest is in principle neutral. It exercises no influence on the price level. Since it depends upon the real (*i.e.* physical) yield of real capital, its rate is determined by the physical marginal productivity of capital. However, in modern life, (*i.e.*, under conditions of a developed money exchange economy) this marginal productivity appears as a marginal value efficiency of real capital and is in reality co-determined by the actual payment for the use of invested money capital (*i.e.*, roughly by the payment for waiting) as well as by the actual remuneration of all the complementary productive agents of substitutive nature. For this reason under capitalism the marginal productivity of capital represents in a large measure a monetary problem.

4. Natural interest is essentially variable because in a progressive economy the physical marginal productivity of real capital goods is not a static phenomenon.

5. The question to whom the capital yield should be assigned is an institutional problem.

The first proposition does not refer to interest but to productive yield in real terms, in particular of a man-made real capital good. This yield is the primary or technical cause of natural interest. Since any durable real capital good which is technically productive may bring a capital yield, everybody who rents it is expected to pay interest. In this connection, Knight speaks of a "yield of property" by which he understands the actual return from the exploitation of durable material things. He means a capital yield which, however, is in our opinion not necessarily linked with the institutional phenomenon, private property.

Some non-permanent natural resources (*i.e.*, which are as species reproducible) as, for instance, seed or a cow, yield a surplus product in the strict sense so ostentatiously by multiplying themselves that they induced Aristotle to create the first theory of interest which in Medieval Europe was known as the "fructification theory" and was in particular advocated by Thomas Aquinas. There is a genuine interest linked with a capital yield when a non-permanent natural resource is lent, only if this resource represents a real capital good and thus embodies a portion of formal capital. The question of what does bring a capital yield and thus eventually interest on account of its physical productivity is answered in two different ways :

1. Aristotle says that a reproducible natural resource like a cow yields it. Since, however, money (in our terminology, capital disposal) invested in a cow could be invested in a man-made productive good also this good has to bring an interest or otherwise nobody will make such an investment. So, Aristotle explains the interest largely in terms of a certain process of substitution.

2. The modern prevailing train of ideas assumes that real capital earns interest ultimately on account of its own physical productivity and because it reflects a money capital which could be otherwise used in an acquisitive way. Since a non-permanent natural resource is almost always a real capital good and appears as an embodiment of a portion of formal capital it must likewise yield an interest.

In other words, according to us, a durable non-permanent natural resource which is meant by Aristotle brings normally a yield in the sense of a genuine surplus product. If, however, such a natural resource is transformed into a real capital good (which is in particular the case if it is lent for an acquisitive

reason) it will give rise to natural interest. Thus, both approaches come to the same conclusion by starting from opposite points.

Productive yield can appear in one of the following forms :

1. Under exceptional conditions as a physical contribution to the total net surplus product made by a non-permanent natural resource which is technically productive (at least in a sense) and does not embody a portion of formal capital, like, for instance, natural manure, or natural insecticide. Here productive yield will not be a source of interest. Usually, however, even such natural resources are somehow man-touched and therefore bring a regular capital yield.

2. In a normal case as a distinct capital yield. Such a yield is derived from any man-made and man-touched economic good which embodies a portion of formal capital and is technically productive.

3. As a capital rent yielded by a non-permanent and not technically productive durable real capital good, like an apartment house, boat, car, etc. Also a horse leased for pleasure-riding yields a capital rent, because it is non-permanent, is not used for production in a narrow sense, is raised and even trained by its master. On the other hand, a tilling horse will bring a capital yield. A horse decaying in the field brings a productive yield.

The proposition that the technically productive real capital brings a capital yield is valid regardless of the fact whether its productivity is assumed to be original or derived. The question, why real capital is in principle physically productive and thus can bring a capital yield in real terms which causes the appearance of an interest paid in a barter economy in kind (*i.e.*, of a typical natural interest) is thus far differently answered by the leading economists who usually (unless they are Marxists) agree to impute a portion of the total net surplus product in the strict sense to the real capital in its capacity of an independent factor of production.

There are at least two important approaches to the problem of productivity of real capital, namely :

1. Real capital is directly productive, *i.e.*, possesses an original physical productivity. It is able not only to reproduce itself but also to create a portion of the total net surplus product (in the narrow sense) no less than labor or natural resources. A piece of iron ore is a joint product of nature, labor and real capital. This position is typical of J.B. Say, Conrad, J.B. Clark and von Wieser. In particular, von Wieser maintains that to

every real capital good should be imputed as its "net product" (capital yield) a portion of the goods of the next lower order, that is, a portion of the nearest successive semi-finished goods which would not appear if the real capital good in question did not participate in their production. The fact that real capital is, in a sense, stored up labor of the past is of no importance because it is assumed that real capital has completely emancipated itself and acts in its own right.

2. Real capital is in a sense productive but its physical productivity has a derived nature. In other words, real capital contributes to the process of production in the narrow sense as an emancipated non-original factor of production only in an indirect way. The reason why it is entitled under such conditions to claim a share in the total net surplus product is usually answered in three different ways, namely :

(a) Because without real capital, productive labor could not be employed on a large scale. This view is typical of many classical economists, in particular of Adam Smith.

(b) Because real capital can at any time be substituted for productive labor and to a lesser extent for the natural resources. Such for instance is the teaching of Lord Lauderdale, von Thunen and Henry Carey. They are, however, not consistent because this would imply that real capital itself is productive.

(c) Because real capital makes the original factors of production (labor and natural resources) more productive by increasing their technological productivity. This view advocated in particular by Marshall and Wicksell is now the prevailing one. Some economists like Bohm-Bawerk stress that real capital introduces a roundabout method of production which causes superior productivity of the current labor and natural resources.

According to any version of the second approach, real capital which has only a derived productivity should be remunerated in its own right as an independent productive agent because it has as such emancipated itself from labor and nature.

There are some usually neglected reasons why real capital is physically productive, namely :

1. Real capital (especially machinery) enables man to capture and to control some natural forces, which otherwise would escape him. A savage does not know how to utilize a waterfall, and has no appropriate means to do so. In such a case, also knowledge must be present as an active productive force, that is, as a "know how" because man can subjugate nature only if he already possesses real capital and an immaterial wealth expressed in terms of technical devices. Sometimes real capital

is necessary for awakening a dormant material resource which later continues to be technically productive almost without any further major real cost, as, for instance, liberated natural gas. Furthermore, real capital enables man to accomplish results which are simply impossible for unaided labor, as, for instance, building tunnels through mountains, the creation of a waterfall by means of dams, etc.

2. Sometimes formal capital and capital disposal are necessary to enable a natural resource, conceived as a real capital good, to acquire a particular quality which increases its objective utility. So due to the intervention of money capital fruit ripens, lumber is cured, wine ages, etc. When fruits or trees multiply themselves, there is a distinct increase in net surplus product in the narrow sense. If, however, fruit ripens or lumber is cured because there is an available capital disposal which permits waiting, there is a direct raising of the fundamental objective utility itself but not the actualization of a matter or a mere creation of form utility. Usually this act means simultaneously an increase in surplus value.

When the services of a technically productive durable real capital good are leased and the payment is made in kind, one speaks of a natural interest (or a rate of real interest). No money in the strict sense is involved in such a case because it is assumed that there is no general standard good that would serve as a medium of exchange and in terms of which the market value of any good could be generally stated. This is true even of a developed barter economy which has only a crude (*i.e.*, incomplete) system of individual prices unless it is so "refined" that it possesses a universal common denominator represented for instance by a foreign currency unit. Wicksell maintains correctly that roughly only under conditions of a money exchange economy is there a general price level and that this level is subject to violent disturbances because money in real life does not behave as a neutral phenomenon. He means the frequent "monetary disturbances" caused by credit inflation.

On the other hand, under conditions of advanced but not refined barter economy, no violent change in prices on large scale can be provoked because there is only a crude system of individual prices so that their fluctuations will be always localized. Under such conditions, there will be also only a crude system of the various rates of natural interest. Any rate of this kind will depend upon the physical productivity of a particular real capital good. For instance, expectations with regard to chicken may become pessimistic which will lower the natural interest which is expected to be paid by a borrower of a certain amount of chicken. This will not, however, imply that a borrower of any other technically productive real capital good

will likewise have to pay a lower natural interest. At the most every borrower in the community will be expected to pay a lower real rate of interest only in the long run and provided that he borrows a good which is somehow related to the chicken. Thus, the rate of natural interest in a barter economy which uses only a crude system of various common denominators and has no general price level is itself a localized phenomenon so that it does not affect an individual price or any other rate of real interest. Only under conditions of a developed exchange economy based on money in the strict sense, interest tends to be equalized and loses its non-aggressive or neutral character. Here there is distinctly an objectively normal rate of interest that replaces the natural interest in the strict sense.

The actual rate of natural interest is not a chaotic phenomenon, however, because it is determined normally by the marginal productivity of the real capital good in the locality, its source being the physical capital yield derived from this good. Since the marginal productivity of any real capital good is in principle variable, the rate of natural interest also experiences frequent change. Under primitive conditions of a simple barter economy, a farmer who borrows tilling horses successively from a rich neighbour will hire them only to the optimum point, that is, will take no additional horse if the animal last borrowed did not bring him a vertical rent. In other words, the farmer will tend to pay as natural interest such an amount of wheat as will equal the increment of wheat crop gained by the use of the normal marginal horse minus the value of the means of subsistence of this animal also expressed in terms of wheat. Here natural interest will equal the net normal marginal product of the borrowed horses. Such a procedure would be regular; yet, it involves a complication regarding the mode of estimating the real expenses of the normal marginal horse which in reality does not consume wheat. Besides, the remuneration requested by the lender of the horses in conformity with objective expectations will co-determine which horse will be the "normal marginal" under given conditions.

In a barter economy every particular kind of real capital is treated individually because one can practically estimate the marginal efficiency of the total real capital only under conditions of a developed money exchange Economy. Consequently, the problem of the marginal productivity of capital as it really appears today is largely a monetary phenomenon. The first economist who introduced the marginal productivity theory of capital was von Thunen, who maintained that the rate of interest on all capital is regulated by the yield of that portion of capital which is last employed. Today this train of ideas is shared by quite a few influential economists, including Wicksell. John B.

Clark, Marshall, von Wieser, Ely, Hicks, D. Robertson and to a less extent, Cassel. There are, however, some important economists, such as Hayek who question the validity of such an approach.

The theory of marginal productivity of capital can be reduced to the following propositions :

1. Hayek, more than any other economist, emphasizes that the concept of marginal productivity must be used only with regard to each separate real capital good, and not real capital. The reason for such a contention is the fact that real capital does not represent a homogeneous physically determined quantity. On the other hand, some modern economists like Wicksell do not hesitate to assume that natural interest is determined by the marginal productivity of real capital conceived as an entity and may even fall to zero if this capital is relatively overproduced in the country. The question arises which of these two approaches is more correct. Theoretically, it is possible to imagine the marginal physical productivity of real capital treated as an entity, provided that this capital represents a fixed system of real capital goods which is variable only as a whole. This is, of course, an unrealistic assumption since it implies a simultaneous proportional change in the quantity of each capital good but still can be applied as a useful instrumental device to individual economy. Under such an assumption, one could speak of an increment of real capital in physical terms as well as of its distinct capital yield which serves as a source of natural interest.

In real life, however, this train of ideas is hardly defensible because one cares only for the marginal productivity of each separate kind of real capital goods or blends them into a distinct embodiment of formal capital conceived as an active investment. So, a farmer tends to blend horses, plows and fertilizers into one system of real capital goods combined with his land in terms of their market value expressed in money. In such a case, an increment of real capital will be a dollar's worth of capital without reference to the different kinds of concrete capital goods which compose it. Under these conditions, one could speak of a marginal productivity of real capital taken as an entity also in real life. This is correctly emphasized, for instance, by Ely. It, however, implies that in the case of a modern money exchange economy the marginal productivity of real capital appears as its marginal value efficiency which has a physical background but is in its essence a monetary phenomenon. In other words one has to understand by the marginal value efficiency of capital the actual yield in money terms of the normal marginal unit of real capital which is likewise expressed in money terms since it is interpreted as the embodiment of a unit of pecuniary formal capital that

reflects the entire given real capital. From the standpoint of the national economy as a whole, the actual marginal value efficiency of capital is virtually determined by that firm which works under the most unfavourable conditions—which implies that it is the least efficient concern among those which are needed by the market. Here yield of the normal marginal unit of real capital will equal the objectively normal rate of interest that in a money exchange economy is practically substituted for the natural interest in a strict Wicksellian sense.

2. The marginal entrepreneur discovers the marginal efficiency of capital just as he finds out the marginal productivity of land or labor that is by varying the technological co-efficient in favor of the given factor (here real capital) until the last unit of this factor ceases to yield a vertical rent. In general he tries to get such a combination of the factors that will produce goods at the lowest average unit cost. As already noted, the process of substitution induces each firm to compare the actual prices of the services rendered by different primary factors of production, so that also the current market rate of interest co-determines which unit of the real capital will be the normal marginal unit under the given conditions. Since the remuneration of such a marginal unit of capital determines the actual objectively normal rate of imputed interest, one rate of interest influences the other; yet, here comes to the fore the usual complex character of the principle of marginal productivity.

3. The normal marginal product of any real capital good, especially, however, of a durable one like a machine, has something peculiar about it. In the latter case it has simultaneously to reproduce itself (that is, to cover the corresponding quota of depreciation) and to yield a surplus over the replacement costs which is, however, again a distinct real cost since every real capital good is treated as a bearer of an active investment. In other words, in real life, any owner of real capital tries to cover the direct money costs of the real capital goods actually used in production and to get an interest on all of the capital employed whether used up or not. Here natural interest becomes prominent. Namely when a farmer borrows the normal marginal horse he has to cede its net contribution to the revenue as "natural interest" to his creditor so that the horse does not bring him any vertical rent. This implies that natural interest is actual yield of the normal marginal unit of the given kind of real capital goods (or of entire real capital) which is appropriated by the creditor.

Should our farmer own the normal marginal horse, the result will be ultimately the same because he will expect it to cover natural interest as a real cost. Otherwise, it would be more

advantageous for him to lease this horse to another farmer. Thus, the normal marginal unit of a real capital good not only maintains or reproduces itself but also yields a natural interest which under normal conditions of a money exchange economy is conceived as an objectively normal interest on one's own investment since any real capital good embodies a portion of formal capital. If we take the normal marginal machine unit its "value productivity" will equal the objectively normal rate of interest. On the other hand, a hired normal marginal worker is not expected under normal conditions to cover directly an objectively normal interest on funds used to pay his wages. The reason is that labor of a free worker does not represent an investment as Marx assumes. Even interest on an eventual wage fund which is absorbed by the costs of merchandise distinctly pertains to circulating capital of the employer. The normal marginal worker is expected to cover the objectively normal interest on the employer's expenditure on his wage only if he is paid out of the funds borrowed just for this purpose because in such a case the interest on the above mentioned additional amount of productively spent money directly raises marginal costs of labor which must be compared with corresponding marginal revenue. Here marginal costs are simultaneously determined by the corresponding wage plus interest on the incurred loan.

4. Real capital of a going business concern is very sensitive to its relative abundance because when the marginal efficiency of capital falls quite a few existing real capital goods of durable nature which are productive in the technical sense somewhat depreciate. The reason for such a development is the previously discussed fact that these goods are often estimated at their capitalized future yield which does not simply reflect their average profitability in the past but also takes into account the current anticipations of the future.

The difference between productivity of capital in the narrow (*i.e.*, technical) sense and its efficiency in a monetary (*i.e.*, acquisitive) sense was realized by Commons when he considered "technological" (real) capital versus "business (formal) capital. It would be clearer and more modern to stress the marginal value productivity (or efficiency) of real capital itself—as is done by Ely—because in reality formal capital has only a derived productivity.

Keynes speaks so much about marginal efficiency of capital determined by the "profit expectations" on new investments which in part depend upon the current rate of money interest that he disregards its physical background and wrongly assumes that real capital which he defines as "past labor embodied in assets" brings a yield only because it requires an investment while

capital disposal is scarce and could be wanted for another purpose, like for instance, hoarding. Thus, Keynes in a sense returns to the idea of substitution in the Aristotalian sense (only regardless of the nature's productivity) and like Cassel over estimates the significance of capital disposal which in reality derives its productivity from real capital.

In other words, although in real life the marginal value efficiency of capital seems to be more connected with formal capital or capital disposal, it should be ultimately referred to the physical productivity of the real capital.

The last proposition of the first approximation to the concept of interest states that the question to whom the capital yield shall be assigned is an institutional problem. In other words, the physical productivity of real capital represents a logical category and thus is of a purely economic but not of a sociological nature. This fact was well realized by Tugan-Baranovsky who once made the following remark : "Real capital as a physical productive agent is unavoidable but the capitalists as a social class could be removed." He intended to say that even a socialistic state will have to use the more efficient roundabout way of production based on real capital which is "capitalistic" only in a technological sense. The same idea is clearly stressed by the French economists Aftalion and Pirou. On the other hand, some leading American exponents of the marginal productivity theory of capital, like John B. Clark, Seligman and Seager were not cautious enough in their statements and thus produced an erroneous impression that this approach represents an ethical justification of capitalism.

The second approximation will introduce some essential psychological and monetary factors without which it is impossible to understand correctly the rate of interest. It can be reduced to the following propositions :

1. Natural interest exists not only because real capital renders productive services or because the roundabout method of production is technically superior but also due to the fact that the time factor is given a price partly for a purely psychological reason. Time preference should be considered as a subjective psychic factor participating in the determination of the rate of real interest.

2. Especially under conditions of a money exchange economy there is still another psychological factor making the existence of interest necessary, namely, liquidity preference.

3. Since interest on capital rewards a personal service, it exists also in a static economy. Some economists who share

this viewpoint maintain, however, that in such a case interest is an exploitative and strictly "social" phenomenon.

4. The rate of money interest which reflects the actual marginal value efficiency of capital is defined by some economists, in particular by Wicksell, as the "normal" rate of interest. Such a rate is an equilibrium phenomenon and remains neutral in respect to the general price level.

The time factor is given a price not only for psychological reasons but also for purely technological reasons :

1. Bohm-Bawerk states that time and productivity are connected because there is a technological superiority of the means of production which are applicable earlier over those which will become applicable in a more distant future. Besides, a thousand days' labor applied to the making of machinery will yield many times the product that the same quantity of labor could create if it were directly applied to the natural resources. Of course, not every roundabout method is superior but normally a direct application of labor is by far less productive. So, for instance, a worker can make 450 bricks a day by hand, while modern brick-making machine turns about 1,000 times as many. In any case, even a farmer has to compare the productivity of the roundabout method with the productivity of the direct method before he abstains from making an investment in agricultural machinery.

Practically Wicksell expresses the same idea when he states that in a dynamic economy the marginal productivity of the "saved up labor and land" (*i.e.*, of real capital) is normally bigger than the marginal productivity of the current labor and land. Also Erich Lindahl stresses that time is productive because the present means of production have a technological superiority over the future means of production. Consequently, he restates in somewhat different terms the idea originally expressed by Bohm Bawerk.

2. Von Wieser and Hayek emphasize that real capital goods have different values at different stages of production, each successive stage of the roundabout way showing a higher value of the given good than the immediately preceding stage. Thus, the time factor is given a price. This is very clear, they say, because the margin in market value as between one stage and another is greater than the value added by labor and natural resources. This happens because any successive stage of production bears a remuneration of the employed productive real capital so that the capital's share in the total value of production becomes more conspicuous with the passage of time since the length of investment increases.

In the opinion of this author, however, time itself is not productive. We have such an impression because the technological productivity of real capital manifests itself in time. In other words, it takes time to build a real capital good and it takes additional time to get a capital yield from it. Both processes imply waiting which has to be remunerated as a personal service. Thus, time is priced indirectly. Yet, the ultimate cause is again the physical productivity of real capital. In general, there is an objective reason for a relationship between interest and time. There is, however, still a subjective reason for this relationship because the so-called "time preference" is an important psychological factor which clearly codetermines even the natural interest. This term was invented by Bohm-Bawerk and is now widely used by many economists, such as Irving Fisher, Frank Fetter, Lindahl and Kiekhofer.

Time preference is somewhat differently defined by modern economists; yet, its essence is very clear. The following series of propositions show this :

1. According to Irving Fisher, time preference is the percentage excess of actual desirability of present goods over the present desirability of an equal amount of future goods. The idea of time preference was, as mentioned before, introduced by Bohm Bawerk who expressed it in a very simple way, namely, he said that man tends to underestimate the future values in relation to present values. In other words, the average individual usually prefers to have an equal amount of material goods and services at present than in the future and in the near future rather than in the distant future. Bohm-Bawerk maintains that time preference is based on man's optimistic belief that he will be better provided with goods in the future than now and therefore he scales down the estimation of goods which he expects to have in the future on account of the principle of diminishing marginal utility. This implies that future wants appear to him as less important.

2. Lindhal formulates the time preference idea somewhat differently. He says that an average individual tends to estimate present incomes higher than future incomes. This approach was originated by Irving Fisher who said that interest is paid as price for income now rather than income in the future. According to him, man is impatient and does not easily defer the enjoyment of his income. If, however, he exchanges his present income for a future income he requires a remuneration for this. In other words, time preference causes the existence of two "agios" (to use Bohm-Bawerk's terminology) namely, the time agio and impatience agio which may coalesce.

3. Alvin Hansen maintains that under conditions of a normal money exchange economy time preference is a preference for present purchasing power as compared with future purchasing power. This proposition comes very close to Fisher's income approach but also is related to the Keynesian liquidity preference.

4. Since an average individual tends to prefer a present good to a future good of the same kind and present purchasing power to future purchasing power of the same size, he discounts on the future goods and incomes even under conditions of a primitive barter economy so that time preference should be considered as a logical category which influences the rate of interest under all conditions. Lindahl stresses this permanent character of time preference by pointing out that it would exist even if there was no real capital at all but only a lending of effort. In the opinion of this author, however, time preference exists even when there is no lending at all. Besides, Lindahl introduces the idea that under modern capitalistic conditions there eventually can be an increase in the capital value of a durable material good, like a house, simply because subjective expectations (*i.e.*, personal estimation) may change in time so that the mere passage of time develops occasionally for a purely psychological reason as the cause of appreciation. This contention is true in a sense ; yet, one should not overlook the fact that such an appreciation normally has a non-psychological background. When a town grows a given house may become more valuable on account of mere optimistic expectations of some persons. Usually, however, its factual appreciation will be connected also with a change in the actual data, like, for instance, a new streetcar line.

5. It is necessary to emphasize that time preference is in principle based on waiting. If one exchanges present purchasing power for future purchasing power, he has to defer consumption or a choice among alternative investments in the near future, that is, he has to wait. If one exchanges a present good for a future good, he will have likewise to wait. This is the reason why one has to pay a premium or *agio* for the use of present goods or present purchasing power.

6. Bohm-Bawerk considers the process of production as a slow development of a future good and its gradual transformation into a more valuable present good. According to him, any future good, for instance, a machine in the process of being made, or a semi-finished consumption good, matures gradually like a bill of exchange matures to its face value. This development is very clear if one considers the cash purchase of a government savings bond which matures in 10 years at \$100 but costs \$75 at present. The premium of \$25 received by the State's

creditor remunerates him for a positive time preference which is in addition necessarily accompanied by risk taking. In general, Bohm-Bawerk assumes that when a good or an amount of money is lent, it is practically exchanged as an actual scarce and more valuable means for a future good which is considered as less desirable, since it is still in a sense "immature."

Time preference is the main supplementary reason why there is interest even in a barter economy. This fact explains natural interest from still another viewpoint. When, for instance, a bull is leased by a farmer to another farmer who wants to consume it as meat, the borrower is led exclusively by time preference.

He may own some little bulls but is impatient to have a great deal of beef at present. Consequently, he promises to return to the creditor a young bull in a few months and is willing to pay interest in kind (*e.g.*, in terms of potatoes) which will be influenced by the "impatience agio." On the other hand, the creditor will take into account that he forsakes the chance of using the bull as a breeder. Thus, in this latter case, capital yield which is renounced by the lender may serve as a co-determinant of natural interest. Yet, usually the impatience agio will be decisive. All this proves sufficiently that Arthur Smithies is wrong when he says that interest could be explained adequately only in the context of a monetary economy.

The main characteristics of natural interest are :

1. From a technological or rather physical standpoint, natural interest is based on capital yield and its rate is determined by the marginal productivity of real capital goods.

2. From a psycho-subjective standpoint, natural interest is chiefly based on time preference and its rate is determined by the degree of predilection for present goods and incomes.

Both determinants act simultaneously even under the most primitive conditions. Even in a barter economy time preference may become the main cause of natural interest since this economy is largely using pure consumption loans which are based chiefly on time preference. In the case of such credit, there can be no expectation of capital yield as far as the borrower is concerned. Yet, a creditor may eventually care for a foresaken capital yield conceived as opportunity costs.

With regard to time preference, an individual may have as his normal tendency a positive or a negative proclivity. In general it is possible to distinguish between the two following types :

1. An individual who shows "profligacy" or propensity to consume as his normal tendency, *i.e.*, spends a large portion of income on buying final consumption goods, and thus has a positive time preference. Such an individual definitely prefers present goods or purchasing power to future goods or purchasing power and is willing to pay interest on consumption loans, in particular to buy durable consumption goods by means of installment credit.

2. An individual who has a negative time preference and thus manifests "frugality" or propensity to save. Such a person avoids borrowing for final consumption. On the contrary, he prefers to defer such consumption, in order to be able to dispose of his current income in a lucrative way.

Any extreme one-sided development of time preference violates the main principle of economizing. So a spendthrift does not observe the principle of saving because he inflates his present wants at the expense of his future consumption. A miser neglects the principle of adjustment by deflating his present wants and by making the available means scarcer than they ought to be at the moment. Both individuals under discussion act in an uneconomic way.

As a rule, the time preference of a person who is not rich is positive for the following reasons :

1. Young people are inclined to underestimate their future wants since they assume that their future income will increase either because they expect to inherit or because they believe that education or even simply experience will in the future increase their earning capacity. For this reason, the subjective exchange value of their present purchasing power (in terms of money) shows a tendency to be rather high. Young people comparatively easily contract a consumption loan on account of their optimistic expectations and desire for an immediate diversification of wants. They do not mind paying an "impatience agio."

2. Aged people normally have a pretty intense feeling of mortality. They realize that they may not live to enjoy future goods and thus set a lower value on them. For this psychological reason, they will not lend unless they are tempted by a high remuneration for an eventual waiting. Especially when an individual has no family, his propensity to consume increases with every year because he is eager to enjoy life and simultaneously has no opportunity costs caused by moral considerations.

Under normal capitalistic conditions, the time preference of an adult who is not rich develops in a somewhat dialectical way : *thesis* : a growing feeling of mortality and impatience to enjoy material comforts—result : a high propensity to consume.

Antithesis : fear of remaining without funds while sick and old—result : a high propensity to save. *Synthesis* : tendency to be frugal only in middle age. On the other hand, a young man normally has no feeling of mortality : but a soldier on the front may have a propensity to consume of extreme proportions. The new social security legislation, in particular the citizen's title to an old age pension and to gratuitous medical help, will also gradually increase a middle aged man's propensity to consume.

3. The present epoch of a second great industrial revolution linked with grave social unrest obscures the normal development above mentioned. From an institutional view point very uncertain life now becomes. This serves to increase the positive rate of time preference although it might simultaneously provoke a desire for liquid funds of a more or less international validity (*i.e.*, gold, diamonds) which will curtail the propensity to consume in favor of hoarding. This is the main reason why the Keynesian theory of interest became so popular in our times.

There are still some other objective factors which influence the rate of individual savings, regardless of the rate of interest, namely :

1. The amount of per capita income. Setting aside a portion of one's real income for future use is much easier when this income is large. In such a case, time preference represents a less acute problem since present goods possess a comparatively modest marginal utility. The slow rate of accumulation in medieval times was due in part to low income. Also a great inequality of incomes within a national economy increases saving because many people do not experience a desire to raise their current consumption, since they are satiated and because (at least frequently) the well-to-do people have a greater calculating habit than the wage earners. For them, money is chiefly capital disposal. Besides, rich people believe in having greater wealth when the market value of their long-term investments rises even for a short duration. This is correctly stressed by Keynes.

2. Steadiness of income increases the propensity to save. On the other hand, when a man's income is very unstable as in the case of a major inflation, civil war, etc., life tends to become something of a gamble so that one may try to have more enjoyment as long as income flows.

Time preference has also an institutional aspect, for instance, a nobleman in Mediaval Europe or a contemporary high colonial official are in principle expected to display a conspicuous propensity to consume.

The idea of time preference in spite of its evident importance does not escape criticism in economic theory. We shall mention only the following few critical views while simultaneously subjecting them to a counter criticism.

1. Lujo Brentano says that if a positive time preference existed there would be no insurance business and no pleasure could be derived from man's tendency to anticipate things.

2. Struve maintains that when someone takes a productive loan in order to make an investment he is optimistic and confident that the value of the product will be so high that he will be able to get something over the borrowed amount plus interest on it. Consequently, in real life, there is an under estimation of the present goods and not vice versa.

These arguments are grave only at first sight. They can be evaluated as follows :

(a) A man who takes out an insurance policy usually does not expect to exchange his present purchasing power for future purchasing power of the same size. On the contrary, he expects to get a larger amount in the future. For instance, one insures his belongings usually at a higher price than their current expected market value. In the case of life insurance, one hopes to leave a capital which could not otherwise be saved. Besides, one may want in this case to curb the propensity to consume. As to the insurance company, it just estimates the present investing power very high.

(b) An average individual visualizes the present more vividly than the future so that Brentano's case is a deviation from the norm.

(c) Struve wants to emphasize that the market value of the future product is usually expected to be bigger than the present market price of the respective factors of production (*i.e.*, the money costs); this is evident. Yet, Struve misses the point because when somebody borrows capital disposal for a productive investment, he is willing to give remuneration for the other man's waiting just because of his tendency to expect that the borrowed present investing power will prove to be a great productive force. In other words, the borrower believes that the technical productivity of the actual real capital will allow him to reap a nice profit in the future despite contracted liabilities.

Liquidity preference is the second supplementary reason of a psychological nature for the existence of interest especially in a money exchange economy. The theory of liquidity preference was originated by Schumpeter but made widely known by Keynes

and Hahn. This theory can be reduced to the following propositions :

1. Liquidity preference is the preference for an equal amount of cash rather than claims against other persons, like, for instance, the bonds of a business corporation. If an entrepreneur develops liquidity preference this means that he prefers to hold cash or an inactive demand deposit rather than to have an immediate chance of an eventual profit. Thus, he agrees to incur opportunity costs.

2. The rate of interest is a reward for parting with liquidity for a specific period : it is a price which equilibrates the desire to hold wealth in the form of cash with the available supply of money. In particular, D.H. Robertson says that the rate of interest is equal to the marginal advantage of holding cash. The alternative to the holding of cash, for the individual, is conceived to be the holding of securities, which is, however, connected with a great deal of inconvenience, illiquidity and risk.

3. When interest is considered as a "price of hoards," it is, in the last analysis, determined by the desire to have money as such. Yet, since money at any time can be converted into capital disposal, it is always simultaneously influenced by the demand for investing power. Thus, liquidity preference has a close connection also with demand for real capital.

4. According to the advocates of the liquidity preference theory, hoarding and dishoarding provoke an abrupt change in the money supply and thus determine largely the short term changes in the rate of interest. On the other hand, people increase or decrease their idle cash holdings (hoards) according to the going rate of interest because as Joe Bain says—one tends to equilibrate the psychological "yield" of liquidity, (*i.e.*, the pleasure derived from holding cash) and the sacrifice caused by hoarding in terms of opportunity costs (*i.e.*, in terms of the interest return foregone). In other words, a rational balance holder will adjust his cash holdings in such a way that his marginal rate of liquidity preference which changes inversely with the change in idle balances is equal to the going rate of interest. Under such conditions, he will have no stimulus to hoard or to dishoard. Summarizing we can say that interest is determined by the desire to hold cash and by the demand for productive real capital. The behavior of an individual is expressed in terms of hoarding and dishoarding so that they determine interest. Yet, they themselves are co-determined by the actual rate of interest.

This train of ideas is psychological, very monetary and somewhat institutional. It is typical of the present epoch, largely characterized by a scared private initiative and a potent

securities' market. The reasons why liquidity preference exists can be summed up as follows:

1. Keynes emphasizes that people prefer to hold their wealth in the form of money if they fear that the rate of interest may rise in the near future to such an extent that the loss in capital value from the higher rate of interest will more than offset the temporary gains in the form of annual yields at the current low rate of interest. This proposition is logical if we consider capital as capitalized income. If, for instance, a property brings a net income of \$2,000 when the objectively normal rate of interest is 1%, its value is \$200,000. If the rate rises to 5%, its value will be reduced to \$40,000 so that the entire investment in spite of continuous income will prove to be a failure. Such a case is, however, in our epoch hardly possible because one cannot expect that at the time of a great technological progress the marginal efficiency of capital will suddenly rise in such a radical way and thus drastically raise the actual comparatively low rate of interest. It is interesting to note that in the period 1879-1930, the physical stock of real capital increased eight times. Keynes himself does not believe that the marginal efficiency of real capital can seriously increase in our time; on the contrary, he rather expects a reverse trend. Yet, he simultaneously insists that the rate of interest may eventually experience a considerable increase. The reason for such a development will be, however, according to him a serious increase in the hoarding of cash unless this process is counter-balanced by a simultaneous increase in credit creation. Also, this assumption of Keynes does not, however, fit into a more or less normal picture since in our time the rate of interest definitely tends to decline. Summing up, we can say that according to Keynes, liquidity preference is vital for the following two reasons :

(a) The marginal efficiency of capital decreases with technological development so that the rate of interest tends to fall but the liquidity preference rises and upsets this tendency in such a measure that the rate of interest can even be raised.

(b) A considerable increase in the rate of interest in its turn decreases liquidity preference so that the process cannot become cumulative.

2. The uncertainty of institutional life may inflate the liquidity preference which was well realized by Taussig. This is the real reason why Keynes developed his now popular approach. In our opinion, if people fear that on account of social revolution, major war, or state intervention, they may lose their investments, they prefer to transfer their capital abroad. When,

however, this becomes impossible they start to hoard gold coins, better foreign exchange and even cash. This development was very typical of Western Europe before World War II. It takes place, however, at any time when private initiative is frightened. Liquidity preference is in a large measure, perhaps even ultimately a "safety preference."

3. There is a desire to have a sum of money on hand to meet some small unavoidable payments connected with a regular business, the household or some accidental emergency cases. Keynes speaks in this connection about "transactions motive" and "precautionary motive." The latter motive is stressed also by Hicks who says that money substitutes, like stock, mortgages, etc., have an imperfect moneyness and thus are not liquid enough. In other words, if one needs really liquid purchasing power, one must have cash because it takes a certain time to sell securities. Even checks are insufficient because if one makes a motor trip and must pay for accidental repairs on the road, one will have to pay in cash. All this is true but it is wrong to consider securities as money substitutes since they are not a means of assignment. On the contrary, if cash is needed they are usually sold. The fact that securities function often as alternative for holding cash does not elevate them to the rank of money.

In our opinion, the existence of liquidity preference cannot be denied since it is apparent even in a barter economy where it is caused rather by a feeling of insecurity. Here two cases are possible, namely :

1. A farmer may be reluctant to lend seed to his neighbor if he has only a modest stock and doubts that the actual seeds are very productive. Should he however part with a portion of this stock he will require a certain remuneration for the fact that he "parts with liquidity."

2. A militant semi-nomadic tribe or a settler in a remote and unsafe region prefer cattle to better residences because cattle are "liquid" in the sense of being mobile and can at least in part be quickly consumed in case of necessity. For this reason in such circumstances one will not lend a domesticated animal gratis.

In a developed national economy, under normal conditions, liquidity preference is only a minor supplementary factor among those factors which cause the appearance of interest. Under somewhat abnormal conditions however when prosperity is close to its peak, liquidity preference becomes a rather important factor because credit institutions are worried about their liquidity while the peoples' desire for cash rises on account of the so-called transactions motive and the speculative motive. If the conditions are strictly abnormal, liquidity preference may become

even a major factor in interest formation so that in this case interest will be really considered as a "premium on present cash against deferred cash" as is assumed by Keynes. On the other hand, even under abnormal conditions, liquidity preference is never the sole factor causing the appearance of interest. This is the main reason why one should not reduce the theory of interest to the discussion of liquidity preference, as is, however, often done in the contemporary Anglo-American literature. The main defect of the Keynesian theory of interest is, however, that it neglects the chief cause for paying interest, namely the fact that real capital brings a physical capital yield or, roughly speaking, is technically productive. In other words, interest is not only a monetary phenomenon but is implicitly linked with the sphere of production. It should be still noted that Keynes considered as a great argument in favor of liquidity preference the fact that a man who hoards his savings in cash earns no interest though he saves just as much as before. His fallacy is, however, to indentify hoarding with saving which causes an active investment and thus represents a personal functional service that must and can be remunerated.

In our first approximation to the concept of interest, we discussed in detail the productivity theory of interest treated by us either as a fructification theory or a marginal productivity theory. In the beginning of our second approximation, we disposed of the psycho-physical *agio* theory of interest and of the psycho-monetary liquidity preference approach. We have to turn now to the third proposition of our second approximation which states that there is an interest even in a static economy.

The main causes are the following :

1. Under stationary, (that is, purely static) conditions real capital must be reproduced because otherwise there will be a digressive, that is, a negatively dynamic economy. Besides, even a stationary economy is interested in not consuming (in a final sense) its real capital since this capital is physically productive. The emancipated real capital, however, tends to claim a part in the total net revenue so that interest appears as a real cost which is not inferior to any other cost of this kind and for this reason must be covered by the static total equilibrium price as a portion of the objectively normal net revenue. When there is private property with regard to the real capital goods the owner appropriates this share of real capital and interprets it as a remuneration for his waiting or rather for the function "re-saving." Furthermore, a producer who cares for a regular amortization of his fixed real capital goods and thus safeguards the real capital of his country incurs an opportunity cost even in a stationary economy

because he still in principle abstains from increasing his immediate consumption. For this reason one should not disregard the evident fact that a producer can be in a total equilibrium only if he gets a remuneration for the above-discussed socially useful function.

Under kinetic conditions, a producer who does not neglect the reproduction of his real capital incurs still another opportunity cost because he may grant a remunerative consumption loan (based on time preference) after having disinvested a portion of his formal capital. The fact that real capital under static conditions only reproduces itself but does not grow, is in this connection of no importance because the mere presence of real capital already increases productivity of natural resources and labor so that its productive contribution is quite distinct. Since, under stationary conditions, everything is constant the rate of interest also cannot change but must crystallize itself as a certain permanent monopolistic income. We use here the term "monopolistic" in a strictly institutional sense.

This train of ideas is partly derived from the works of Marshall, Knight and Lindahl.

2. It is assumed that under stationary conditions, all businessmen own originally almost an equal amount of real wealth. Yet, some branches of industry require more capital, that is, are more intensive with regard to real capital. This implies that such industries will have to borrow capital disposal once and for all from those who need it less. The interest which will arise for this reason is necessarily constant and crystallizes itself as a form of "monopolistic" income. It is evident that such monopoly revenue must be consumed entirely in the given period but cannot be invested or hoarded. This proposition is presented by Hans Peter.

3. Under kinetic conditions, a potentially insatiable demand for durable consumption goods, like houses, automobiles, etc., must be checked by means of an interest paid for capital disposal because otherwise (*i.e.*, if the investing power could be obtained gratis) some individuals will overdevelop their demand for the above-mentioned goods and thus will destroy the given kinetic structure. The kinetic assumption that any increase of demand for a durable consumption good should be counter-balanced by an equal decrease in the creditor's demand for the respective kind of good could be introduced but will have a very unrealistic character. This proposition is presented in a somewhat different form by Cassel and Knight.

4. Since under static conditions, the law of indifference prevails (*i.e.*, there is a uniform price), any businessman who

decides not to charge interest will find that those who purchase his merchandise at a lower price will resell it at the normal price which includes interest. For this reason, no one can be willing to sell in a kinetic economy below the objectively normal costs.

This train of ideas is developed in a somewhat different form by Albert Meyers.

In addition, as already mentioned, there is always a possibility in a kinetic economy of granting a remunerative consumer credit so that everybody who invests his own funds in business can hardly disregard that he in principle incurs certain opportunity costs. On the other hand we cannot agree with Pigou that the stationary economy has an interest on account of time preference since in such an economy the future is clear and there can be no conspicuous discounting of the future goods.

The proposition which we have developed, namely, that there is interest even in a stationary economy is rejected by the purely dynamic theory of interest advocated in particular by Schumpeter and Irving Fisher. We can reduce this theory to the following main propositions :

1. Interest flows from profits caused by innovations, consequently it is itself a dynamic phenomenon which cannot appear when its dynamic source vanishes.

2. Interest must be paid because dynamic entrepreneurs who combine means of production in new ways have to ask the capitalists to finance their ventures and it can be paid because any entrepreneur of this kind (usually an inventor) gets a surplus revenue. Thus, interest represents a certain peculiar tax on dynamic profits.

3. Interest is only a monetary phenomenon; it is a kind of "co-efficient of tension" in the monetary system. According to Lange who represents a peculiar faction of the dynamic theory of interest the shortage of money capital leads to the shortage of real capital and thus prevents to achieve a stationary status which would have precluded the appearance of interest.

4. In a static economy, there is no interest because there can be no under valuation of means of production as compared with the finished products. Every market price will in this case cover only the services of the land and labor involved. Since interest is no real cost it cannot appear in a static economy. In addition, real capital simply replaces itself but does not promise to yield a profit because there are no innovations. In other words, real capital cannot serve here as a source of interest.

In our opinion, such a purely dynamic theory of interest should be accepted only in part as a valuable supplement to the fundamental theory of static interest. We can sum up our criticism as follows :

1. The purely dynamic theory of interest is unable to prove that there is no interest under static conditions even if one disregards consumer's borrowing linked with time preference which is quite probable in a kinetic economy. If the objectively normal price covers services of land and labor, why should it not cover a static interest as a remuneration for the services of real capital? Even if one considers such a capital as a bundle of stored labor and natural resources, one still will have to impute to it a portion of the surplus product in the strict sense and thus of the eventual surplus value since capital acts as an emancipated productive agent, no matter to whom it belongs. For this reason, the purely dynamic approach which neglects static interest as a real cost is at least incomplete.

2. Only in the case of a dynamic money exchange economy, Schumpeter and Irving Fisher are right when they say that a businessman or rather an entrepreneur is willing to borrow and to pay interest on a new investment if he expects to be able to control a superior alternative method of applying resources. This means that when expectations are good and a larger capital yield is anticipated the effective demand for capital disposal increases since the borrowers believe that they will be able to pay interest out of a dynamic source. Only in such a case we can admit that the source of interest is the margin between the realized market price of the product and the objectively normal costs which was made possible by the control of resources on behalf of those entrepreneurs who were able to combine them in more efficient ways. This implies that Schumpeter speaks exclusively of a purely dynamic source of interest while there are still some other phenomena which cause the appearance of a static interest. Also, Irving Fisher develops a dynamic approach when he maintains that the interest can be lasting only if there are constantly new investment opportunities which are comparatively more profitable than existing investments.

3. Interest according to our analysis can be either static or dynamic. In a stationary economy there is only a constant objectively normal rate of interest. Under dynamic conditions, the imputed static interest conceived as a "non-expenditure cost" in John Due's terminology is a portion of the objectively normal net revenue which does not contain risk premium and thus is uniform while the eventual contractual dynamic interest flows from a dynamic source, *i.e.*, from a surplus over the actual objectively normal net revenue. The latter interest is not

uniform. So, when the given static (uniform) rate of interest amounts to 5% and the rate of interest actually paid by an entrepreneur to his creditor amounts to 7%, the difference of 2% will be chiefly (*i.e.*, with exception of a risk premium in the narrower sense) a dynamic interest which will have to flow from a distinct dynamic source, like profit connected with an innovation. It is evident that static interest tends to have in a dynamic economy a changeable rate in spite of its uniformity since it is literally static only at the given moment. On the other hand, the presence of a dynamic interest makes the money loan rate in real life very sensitive to the principle of price discrimination because a powerful lender of capital disposal may easily take into account the paying ability of his borrowers which is far from uniform. Sometimes a creditor obtains a higher rate of interest simply because there is a long term contract; in this case it can happen that the given interest exceeding the objectively normal rate of interest does not flow from the debtor's profit but on the contrary constitutes from his viewpoint a loss.

4. One will have to accept in toto the purely dynamic theory of interest only if one agrees that there is no productive interest except that which is identical with dynamic interest in the above mentioned sense. This is, however, unwarranted for the reasons which we have already explained. In addition, one cannot deny that even in real life the absence of an objectively normal interest on one's own investment is resented as a loss (especially in the long run) at least because this violates the principle of opportunity costs.

Since under dynamic conditions, the realized market price of a product does not cover the total costs of each firm, there are some submarginal firms at any given time, even if each firm of this kind may be in principle shortlived. In the long run, however, no firm will be satisfied with covering only its prime costs in the Marshallian sense because nobody can entirely neglect his opportunity costs and suffer continuous losses.

5. The main difficulty of the purely dynamic theory of interest is that it cannot explain in a direct way the fact that a marginal firm gets an imputed interest on its own investment. If such a firm obtained a dynamic (*i.e.*, a progressive) interest it would have ceased to be marginal and would have assumed the character of a supermarginal enterprise. We shall return to this proposition a little later.

Schumpeter realizes himself that the purely dynamic theory of interest cannot prove that there is no interest in a static economy and for this reason admits that there are quite a few sources of gain under static conditions. His concessions to the static theory

of interest are in particular conspicuous in his book on business cycles, published in 1939. Roughly speaking, a dynamic economist usually admits the following "sources of gain" standing at the disposal of a capitalistic producer under more or less static conditions :

1. There can be an interest connected with consumer's borrowing.
2. Some frictional gains due to error, indolence, accidents, which were stressed still by Bohm-Bawerk.
3. Outlay for risk if it was not necessary, *i.e.*, if something has removed the anticipated risk.
4. Monopoly revenue of a constant nature.

This scheme has a rather complex character because the first item practically institutes a regular interest in a kinetic economy while frictional gains and outlays for risk linked with uncertainties of any kind are likewise possible under kinetic conditions where an individual producer may experience some changes. On the other hand, a constant monopolistic revenue is not incompatible even with a purely static picture. It is evident that in a kinetic economy all gains or surpluses over the actual static interest must be counter-balanced by somebody's losses and must be moderate since otherwise they could develop into a dynamic factor. Also, Schumpeter stresses that a monopoly income in a static economy must be "consumed" entirely during the given period because otherwise it will violate the static network. In addition, Schumpeter says that if interest really existed in a purely static economy it would be a parasite on the body of wages and rent of land. Such a contention is no proof against the existence of interest under stationary conditions but only means an ethical estimation of it.

The idea of exploitation is integrated into a non-socialistic theory of interest when a contemporary non-marxian economist speaks of usury and condemns it. This concept is, however, vague and is interpreted in our time at least in the three following ways :

1. One understands by it interest on loans contracted not for gainful employment in which the element of risk is lacking, for instance, a highly mortgaged consumption loan. In our opinion, there is no usury in such a case because the opportunity costs are involved.
2. In the case of a gainful employment of loaned funds, an excessively large rate of interest which surpasses many times the current money loan rate.

3. Interest on a loan that brought no antecedent sacrifice to the lender and which in our time is usually connected with credit creation in the strict sense. This last opinion is advocated by Bernard Dempsey, Wicksell, Mises, Hayek, Major Douglas, etc. One could, however, eventually deny the validity of this standpoint if one referred to the liquidity preference since any credit creation somewhat decreases the lender's safety. This is done for instance by Joe Bain.

We turn now to the last proposition of the second approximation to the concept of interest. Any economist who is influenced by Wicksell's train of ideas and like us acknowledges the existence of natural interest as a roughly logical category which in a money exchange economy coincides with the capital yield obtained by the presumed marginal firm in terms of money from the marginal unit of its real capital, must simultaneously admit the existence of money interest which oscillates around this actual rate of real interest and may eventually equal it. In the latter case, money interest will emerge as a "normal" interest that is an equilibrium phenomenon. This kind of interest is discussed by Lindahl, Hayek, Hicks, Mises, to name but a few. The best known exposition of the theory of normal interest is however given by Wicksell. His main propositions are the following :

1. The normal rate of interest is a direct money expression of the rate of natural interest. For this reason, natural interest even in a dynamic economy will coincide with money interest if the actual market money loan rate happens to be just the normal rate of interest. Thus, normal rate of interest expresses equilibrium between natural interest and money interest.

2. The normal rate of interest sets up an equilibrium also between the demand for and the supply of loanable funds conceived as savings so that when such an equilibrium is present the actual market money loan rate will necessarily be the normal rate.

3. When the money loan rate is the normal rate of interest, the banks granting loans must take into consideration the given marginal value productivity of the capital since the rate of natural interest, and thus in this case also the money loan rate, are determined by it. Normal interest can change only spontaneously because it reflects the changes in the marginal productivity of the real capital. Thus, for instance, too much capital indirectly depresses the normal rate of interest.

4. Since the normal rate of interest is an equilibrium phenomenon of monetary nature its passive character with regard to prices emphasizes that this rate is neutral and any dynamic change can be caused only by an increase or a decrease in technological productivity of real capital which in a large measure

depends upon the character of the given credit transactions. Rapid economic progress caused by the creation of credit is incompatible with neutral money and practically also with normal interest because progress implies that the rate of natural interest exceeds the money loan rate. Since the normal rate of interest expresses equilibrium between these two rates, its realization stops progress.

Wicksell's final conclusions concerning normal interest can be summed up as follows :

1. Under stationary conditions, normal interest represents a constant static interest. Since in this case, there is no change at all, there can be only a uniform constant money loan rate which necessarily coincides with the rate of natural interest. Thus, equilibrium between two kinds of interest is here permanent—which implies that the normal rate of interest remains unchallenged.

2. Under dynamic conditions, normal interest represents only a norm toward which the money loan rate gravitates. Eventually, the money rate of interest can realize the norm but this will happen only for a short duration because when money interest equals natural interest (derived from capital yield) progress stops. Consequently, dynamic economic life implies that there is practically a constant disequilibrium between the prevailing rates of natural and money interest.

In our opinion, Wicksell's theory of normal interest is correct as far as the stationary economy is concerned because in this case any business concern is a distinct total equilibrium firm. This will be true only if we assume that there is lending under stationary conditions. The equilibrium between both kinds of interest will in this case remain unshakeable and there will be no profit expectations whatsoever.

Under dynamic conditions, however, it is not correct to say that any progress will stop when uniform money loan rate coincides with the natural rate of interest expressed in terms of money because this would only imply that any existing marginal firm will lose a chance of overcoming its static nature. This happens eventually when the demand for capital disposal and its supply are equal at a level of production which provides full employment and is devoid of innovations. Consequently, it is more correct to maintain that any progress may stop only if the money loan rate is so high that it wipes out the profit expectations as to the net returns to be secured from new investment on behalf of the borrowing most advanced supermarginal firm. Wicksell's mistake is not paying sufficient attention to the principle of the

hierarchy of firms inherent in pure competition. In particular, he disregards the fact that under dynamic conditions, a competitive marginal firm gets static interest conceived as the imputed objectively normal rate of interest which is determined by the marginal efficiency of its real capital. This is however very important because the relation between such a firm and the actual objectively normal uniform money loan rate that may change has a major significance for the entire national economy and may assume one of the following forms :

1. If the uniform money loan rate equals the objectively normal rate of (natural) interest the marginal firm stagnates. In such a case, the money loan rate will be normal in the Wicksellian sense.

2. If the uniform money loan rate exceeds static interest in the above-mentioned sense the marginal firm will become sub-marginal. Should this situation last, a new marginal firm will appear.

3. If the objectively normal money loan rate falls below the objectively normal rate of (natural) interest, the marginal firm will develop into a supermarginal one. In this case, there will be real progress.

The relation between the actual uniform money loan rate and the current objectively normal rate of (natural) interest causes business fluctuations only inasmuch as it directly affects the position of the actual marginal firm and thus influences all economic activity. One should not, however, overlook the fact that in real dynamic economic life business fluctuations are sometimes caused or deepened by a disequilibrium between the actual money loan rate and the given profit expectations of super-marginal firms. Such expectations do not entirely depend upon the prospective capital yield of the given real capital and thus have no direct connection with the actual rate of imputed interest.

All that we said before indicates that "static" interest represented by the objectively normal rate of (natural) imputed interest and expressed in money terms will be "normal" in the Wicksellian sense only if it coincides with the actual uniform money loan rate. At any given moment there is a certain unstable objectively normal money loan rate determined virtually by the interest paid on gilt-edged long term bonds which is "static" in the above-mentioned sense because otherwise the existence of a marginal firm would be impossible. We do not stress here this case however because in our present context we are interested in disequilibrium between two objectively normal rates of interest which may take place at any time in dynamic reality and is more frequently caused by a change in the money

loan rate than by a change in the rate of imputed interest. If they disagree, the marginal firm will cease to be such. To make it still clearer we may say the following : if both objectively normal rates of interest were 5% but the uniform money loan rate suddenly declined to 4%, also the objectively normal natural interest will have to decline to 4% because it is determined by the marginal (*i.e.* total equilibrium) firm which can not be any longer a marginal firm since it will enjoy the status of a positive disequilibrium. If we assume that such a presumed marginal business concern still continues to determine the objectively normal rate of natural interest, we must simultaneously assume that the demand for money capital on behalf of marginal firms will cancel the previous decrease in the objectively normal money loan rate.

It is still necessary to take into account that when the expectations of the supermarginal firms as to the profitability of new production investment seriously decline, the investment can be sometimes raised to a roughly full employment level only if there is a grave drop in money interest rate. Professor Chandler goes even so far as to say that under such conditions an increase in investment could take place only if enterprisers were paid to use funds for investment, *i.e.*, if interest rate was negative.

We stress once more that a discrepancy between the given objectively normal rate of (natural) interest and the given uniform money loan rate affects the actual hierarchy of firms by changing the status of the given presumed marginal firm but is not decisive for the problem of progress. Also, Wicksell's idea that an increase in the rate of money interest is a positive means of checking a boom is contested by some contemporary economists. This is especially true of Alvin Hansen who gives the following reason : an increase in the market loan rate hits regular production but not the highly profitable speculation venture (in particular, speculative inventory accumulations) or inflationary consumer credit. This implies that such a measure cannot be effective. Besides, there are the following reasons why it is even dangerous to increase the money loan rate as a means of "business cycle" policy, namely :

1. It is difficult to get the loan rate down once it has been raised in the boom period. This is especially true of the rates on urban mortgages, on loans in rural communities and with regard to small business.

2. At present there are vast holdings of bonds which will depreciate and thus may decrease the aggregate spending power. Hansen's view is correct and confirms our own contention that

under purely dynamic conditions demand for capital disposal is largely influenced by profit expectations of any kind but not only by the relationship between both kinds of interest which is vital for a marginal firm.

Two rather interesting refinements of Wicksell's theory of normal interest were proposed by his Swedish followers, Lindahl and Myrdal, namely :

1. Myrdal stresses that under normal capitalistic conditions, the rate of natural interest is determined not by the physical marginal productivity of capital but by its marginal "value efficiency." In other words, not the physical but exchange value productivity of the marginal unit of real capital which implies profitability is decisive. Thus, according to him, it is more correct to say that normal interest equilibrates the money loan rate with the marginal value efficiency of capital. This is in a sense true; yet, we should not forget that with regard to a normal productive venture the marginal capital yield and thus the natural interest stand behind the profitability or marginal value efficiency of real capital. Even more than that because in the real dynamic money exchange economy the objectively normal rate of interest in terms of money practically replaces capital yield of the marginal unit of real capital as viewed from the standpoint of the marginal firm.

2. Lindahl emphasizes that normal interest as a neutral rate of interest does not imply that the price level remains stable. Consequently, this rate must be constantly altered in such a way that it compensates for any increase in the price level. So, a 5% rate of interest may be "normal" if the average individual expects an unaltered price level in the future but a 7% rate would in that case be normal if the price level were expected to rise at the rate of 2% per annum. Thus, according to him the normal rate of interest has to be dynamic in a double sense because it must follow any increase in technological productivity of real capital as well as an increase in the general price level. This standpoint is permissible; yet, it changes the concept of "normality" since the normal rate of interest implies usually only that there is an equilibrium between both objectively normal rates of interest regardless of the purchasing power of money in terms of which they are expressed.

The second proposition of Wicksell's scheme pertaining to normal interest ultimately concerns money loan rate and should be refined, in our opinion, as follows : "the normal rate of interest is such a rate at which the demand for capital disposal determined ultimately by the marginal value efficiency of real capital is equal to its supply determined in particular by the marginal costs of

saving." This formula admits the chance that there can be credit creation and speculative ventures.

First of all, it is evident that the demand for capital disposal (in particular, for savings) on behalf of an acquisitive borrower depends upon the expected profitability of the investment which he intends to make. Let us sum up the above contention :

1. Any money loan interest should be paid by the producer out of the net capital yield expressed in terms of money. Only in the case of a consumption loan, the rate of interest depends almost entirely upon the time preference of the borrower and can be a very high one. As a matter of fact, it is usually high because the lender considers this kind of loan as risky and includes into interest a compensation for his risk taking while a borrower is moved by urgency and thus is ready to pay a certain "impatience *agio*." If, however, the capital disposal is borrowed for investment in regular production, the rate of interest will depend upon the expected net capital yield. If, for instance, a certain business concern is expected to bring \$5,000 a year the "net" revenue (after all costs including wages of management but excluding interest have been allowed for) and requires \$100,000 investment, the individual may desire to borrow funds and to float the enterprise at any interest rate below 5%. If the objectively normal money loan rate amounts to 5% the man who wants to start such a business with borrowed capital may be reluctant. He may prefer to earn his wages of management while working for somebody else because business requires much attention but will yield no surplus over the objectively normal net revenue after he has paid loan interest. We assume here that he had no invested funds of his own—which is rather an extreme simplification. Still we may say that a normal commercial borrower will pay for loanable funds only such a rate of interest as is profitable with regard to the expected entire net revenue.

2. Since the money loan rate is in the last analysis a price, it is in principle subject to the law of indifference (*i.e.*, to the law of uniform price) so that under normal capitalistic conditions any commercial borrower does not in principle pay more than the objectively normal market loan rate (exclusive of risk premium) which is determined by the marginal borrower and the marginal saver when the loan is derived from saving. In this simplified proposition we disregard dynamic interest and credit creation since we care for a "norm."

If the loan is granted by a financial institution that has a choice between lending or having idle capital disposal, derived from saving, the rate of interest will be co-determined by the liquidity preference of the given creditor which is here important for

us only if a bank happens to be the "marginal saver." Such an assumption is, however, hardly realistic in actual life.

3. In real life, it may happen that the expectations of the borrowing entrepreneur prove false and that he is obliged to pay the loan interest out of his wages of management or by neglecting to write off depreciation or finally by refraining from having any interest on his own funds. If an entrepreneur does not borrow at all his situation is easier because he can consider the interest as supplementary cost in the Marshallian sense. Yet, in both cases, the business will be given up if such a situation appears to be lasting. When net capital yield surpasses the current money loan rate, some entrepreneurs tend to borrow funds and invest their own funds in something else, for instance, in real estate if there is a promising speculation in that field.

The supply of savings conceived as loanable funds is in principle determined by the marginal costs of saving or by the remuneration paid for "marginal waiting" which can be considered as a service rendered by the marginal saver, *i.e.*, by the weakest saver who is still needed by the capital market. If the objectively normal interest rate is 5% a dollar today is worth a \$1.05 a year from today, not to all savers but only to the marginal one. Any other saver could be eventually induced to supply his capital disposal at a lower rate of interest. Many persons tend to save even at zero interest and sometimes go so far as to pay a negative interest. At present some big banks charge interest when one's deposit account falls below a minimum amount. If, however, we take the theoretically normal capitalistic conditions and assume that any saver gets a uniform positive rate of interest, we must admit that the rate paid to the marginal saver will be decisive for everybody because the socially necessary rate is subject to the law of indifference. When the current rate of interest does not satisfy the actual marginal saver and thus, according to Kiekhofer is not the marginal rate of time preference, it will have to rise. On the other hand, any other saver who could be satisfied with a lower rate will derive a positive psychic revenue defined by Marshall as "saver's surplus." This recalls normal "psychic producer's rent" that was treated in another context. The fact, however, that quite a few persons would have saved without any remuneration for their waiting makes saving a comparatively steady process.

If we take the supply of savings in a more empirical way, we can say that the saving of an individual depends in the last analysis upon the following four closely interrelated factors :

1. The going rate of money interest which eventually may give rise to a positive psychic rent.

2. The urgency of the desire for an increased immediate consumption, from which the saver must abstain. This urgency depends (as we have already seen in another context) upon the age of the saver, impatience, amount and steadiness of his income, etc.

3. The rate at which the subjective value in exchange of money remaining for the present consumption rises as a greater and greater portion of money income is diverted to saving. In other words, the more an individual saves the greater becomes the subjective value in exchange of money used for buying consumption goods. We assume here the normal case that individual lives on income no matter how big his former savings are. This is the main reason why a poorer man shuns a fixed investment of a greater portion of his money income, even if it surpasses the amount necessary to cover his most essential living expenses. Only when an individual fears that he will be unable in the future to cover his living expenses and enjoys at present a steady income will he build up a "safety fund" (to use Cassel's term) regardless of the fact that money gradually acquires a greater, subjective value in exchange for him.

4. When the rate of interest declines, the individuals who have a relatively small capital may prefer to live on their capital (*i.e.*, to consume their formal capital) instead of keeping their investments. This is especially true when the given individual does not expect to live long. If, for instance, a capitalist owns \$100,000 and receives 5% per annum (*i.e.*, \$5,000) he may live entirely upon the interest on his capital. Should the rate fall to 1%, he will refuse to live on \$1,000 a year and will gradually consume his capital. If he expects to live twenty years, he will be able to spend just the same amount of money per annum as before.

In summing up, we can say that under normal capitalistic conditions, if they are devoid of an extreme dynamic character the demand for capital disposal depends ultimately upon the marginal borrower who, as we assume, will be a marginal producer or at least will act accordingly. Consequently, the relation between the current money loan rate and the marginal value efficiency of capital as it is viewed by the actual marginal firm is decisive. Since in a dynamic economy demand for loanable funds depends also upon the "profit expectations" of a stronger firm, investment in real capital goods may in reality fluctuate widely.

On the other hand, the supply of savings depends in principle upon the remuneration which is required for the waiting of the actual marginal saver, that is, the weakest saver still needed

by the given national economy who will not derive any psychic net rent. Yet, the question who the marginal saver will be under given conditions largely depends upon empirical data, like the age composition of the population, the actual distribution of the national income, the given money loan rate, etc.

We come to the conclusion that the representatives of the purely dynamic theory of interest should not deny the theory of static interest since their approach serves in a sense as a supplement to this theory by explaining the nature of an eventual dynamic interest. As to the exploitation theory of interest, it confirms the existence of a static interest and shows that this interest is always somehow institutionally enforced and protected. Finally, the theory of the normal rate of interest clarifies the character of static interest and its position under dynamic conditions. In addition, it establishes a bridge to the pricing theory of interest by introducing the concept of the money loan rate which is, however, considered in principle exclusively in its relation with natural interest. In other words, before we come to the pricing theory of interest, we are practically interested in natural interest which is derived from capital yield. We have mentioned money interest rather accidentally.

On the other hand, the pricing theory pertains to the money loan rate. Yet, this theory of interest should be subdivided as follows :

1. *Realistic approach*, which considers interest as a price paid for the use of the capital disposal that is relatively scarce. Most typical representatives of this approach are Cassel and Marshall.

2. *Atomistic approach*, which conceives interest as a certain "price margin." It should be in its turn subdivided as follows :

- (a) The price difference appears within the process of production in the narrower sense.

- (b) It appears outside of this process.

The first contention was typical of Hayek, von Stackelberg and Hicks; the second one of Leon Walras, Struve and now also of Hayek.

Marshall maintains that interest is payment made by the borrower for the use of a money loan; thus, it is the supply price of money capital. It is preferable to say that it is the price paid for the use of capital disposal as Cassel suggested. There are still some attempts coming close to this approach, which are rather inferior. Pareto says that interest is the price paid for the use of

savings while Leon Walras, Hicks, Chandler and Tarshis are still less exact since they maintain that interest is the price paid for the use of money. Both of these definitions are narrow and risky because interest is not paid for money except in the very particular case of liquidity preference which, however, Walras did not mean. John Ise points out correctly that changes in the general demand for and supply of money taken as such affect the general price level rather than the rate of interest. Besides, if somebody borrows a certain amount of money for buying some consumption goods the money obtained by him will be still "capital disposal" from the standpoint of his creditor who could have "invested" it otherwise. Interest is not paid only for savings, as Pareto says, but for any available capital disposal which is sometimes created by the banks as an actual investing power used for loans or for buying securities.

Cassel maintains correctly that at least under normal conditions, not every demand for capital disposal can be satisfied because the supply of loanable funds depends upon savings and liquidity aspirations of the existing financial institutions. Consequently, only such demands for capital disposal can be duly gratified which are most important or under normal capitalistic conditions, only those which are able to pay accordingly, *i.e.*, which can afford the current money loan rate. When this rate falls there is a possibility of satisfying also the formerly latent demand for durable goods. So, one can, for instance, in such a case develop housing projects. Cassel points out correctly that mankind is prevented from building pyramids as long as capital disposal is relatively scarce and its allocation depends upon paying a rate of interest. For this reason, according to him, a socialist economy must also have an interest. Yet, Cassel emphasizes that the demand for capital disposal is to a less extent a function of the rate of interest than of its supply. This is, only in a sense, correct because (as we have already learned) the question who will be the marginal saver is at least under normal conditions largely solved by the prevailing rate of interest. Also, Keynes shares Cassel's view since he says that the demand for loanable funds is determined by the expected marginal (value) efficiency of capital which does not directly depend upon money interest as well as by the speculation that sometimes neglects to observe closely the movements of the rate of interest while the supply of loanable funds derived from the income is in a sense a function of the rate of interest. He does not, however, deny that the demand for capital disposal depends indirectly upon the rate of money interest since the marginal value productivity of capital is co-determined by it. Besides, the increase in investable funds is provoked according to Keynes more by a rise of incomes than by an increase in the money loan rate.

Cassel minimizes (in contradistinction to Hayek) the importance of the demand for capital disposal developed by the producers of the means of production in the strict sense because he believes that this demand is in a certain measure offset by the process of rationalization, *i.e.*, by the shortening of the period of production. We can hardly follow Cassel in this respect. The length of the period of production is influenced by the prevailing rate of interest because this rate may provoke, when it is comparatively low, the process of substitution in favor of real capital. This idea is correctly stressed by Marshall, Mises Hayek etc. Cassel over-estimates the tendency to shorten the period of production which he observed in Europe (in particular, in Germany) after the end of the First World War. At that time, capital disposal was so scarce and expensive in Central Europe that every firm tried to shorten not only the period of production in the narrow sense but also the period of storage since its shortening necessarily accelerates the turnover of the given circulating real capital. It seems to us that Cassel, on the other hand, over-emphasizes the role of interest with regard to a durable good, such as an apartment house. This occurs because he disregards the fact that the net capital rent yielded by an apartment house is not a pure recompense for the owners' productive waiting. Just when the net revenue derived from an apartment house rises on account of a housing shortage to such an extent that it much exceeds the owner's opportunity costs, the excess revenue will have nothing to do with waiting but should be attributed in a large measure to an increase in the respective urban rent which will be in this case a genuine scarcity rent. We can also say that under such conditions the house owners profit by the presence of an unfree competition in the market concerning the services of their real estate.

We turn now to the atomistic version of the pricing theory of interest which can be reduced to the two following propositions each showing a separate approach, namely :

1. Under static conditions, the rate of interest coincides with the "price margin" or difference between the price of the product at any stage and its price at the immediately preceeding stage. Under dynamic conditions, however, price margins at different stages are not uniform and are not absorbed by interest so that their difference at various stages provokes a constant shifting of the non-specific factors of production from earlier to the later stages of productive process and vice versa. In general, the rate of interest is a stimulator of substitution in different senses. This mean Hayek I, Wicksell and in a certain measure Bohm-Bawerk.

2. Interest depends upon the difference by which the combined price of the factors of production falls short of that of their

expected product and in a static economy equals the said price margin. This view is typical of Walras, Mises, Lindahl, Bohm-Bawerk and Hayek II. The same idea is somewhat differently expressed by Struve who says that money interest is determined by the difference between prices paid (*i.e.*, costs) and prices obtained. One pays, according to him, for the use of capital disposal because it helps to realize a positive price margin.

Hayek assumes that under static conditions, there is a constant harmony with regard to the hierarchy of the stages of production. In other words, every stage is equally remunerative so that the non-specific factors are in equilibrium and for this reason do not move. As soon as these factors begin to move because there are some more profitable stages of production, the static economy disappears. In real dynamic life, however, the non-specific factors of production are restless because the rate of interest constantly changes and alters the price margin differently relative to interest at various stages so that the structure of the roundabout way of production likewise changes, *i.e.*, becomes either longer or shorter. If, for instance, money interest falls the demand for capital disposal will increase at the earliest stages of production whose product must be discounted for the longest period, *i.e.*, is especially exposed to the interest charges so that a decrease in the rate of interest cheapens the production of the means of production. Thus, the period of production (or the period of investment) will become longer. In other words, a longer roundabout structure of production will be under such conditions more advantageous and for this reason the demand for the new producer's goods will be stimulated. This implies that the non-specific factors will be shifted to the earlier stages of production so that the prices of the consumption goods will necessarily increase since such goods will become scarcer (*i.e.*, less produced). So gradually, the price margin relative to interest will become more favorable at the later stages since the consumption goods will be more valuable and will be able to bear a higher rate of interest. Under such conditions the non-specific factors of production will have to return to the later stages and the roundabout structure of the production will be thus shortened.

Hayek's approach is based on the following assumptions:

1. The demand for capital disposal is very elastic at any stage and rapidly follows any change in the current rate of money interest.
2. The rate of interest plays a very effective role and changes the roundabout structure of production. Yet, shifting of the non-specific factors from the earlier to the later stages of the production and vice versa is comparatively short-lived and leads

to a counter movement as soon as the relative scarcity of the factors of production at different stages changes since this affects the relative price margins. In general, the movement of the means of production within the hierarchy of stages is caused, according to Hayek, by the presence of a changeable rate of interest while according to Lange who denies the existence of a "static" interest the above-mentioned movement is not the effect but the cause of interest.

3. Sometimes the period of production (or investment period) changes not because there is a change in the current rate of money interest but on account of a change in the respective demand. So, for instance, the roundabout structure of production becomes shorter not only when the rate of interest rises but also if the demand for consumption goods is comparatively much greater than that for the producer's goods. In the latter case, the price margin at the later stages of production will likewise become comparatively more attractive. Thus, there is a complex interaction of the rate of interest, demand for goods of different order and the roundabout structure of production.

Hayek maintains that interest stimulates the process of substitution which is many-sided. In other words, the rate of interest influences the following ratios causing substitution and pertaining to a firm, namely :

1. The ratio between capital and labor. If interest falls capital is substituted for labor and vice versa.

2. The ratio between earlier and later stages of production which determines the length of the period of production or investment. So, if the rate of interest increases, the roundabout structure of production is shortened. In such a case, a later stage of production will be substituted for an earlier one. In other words, a certain preference is shown either to the earlier or later stages by shifting the non-specific factors of production. This implies that there is at any given moment a comparatively greater demand either for the consumer's goods or for the producers' goods.

3. The ratio between different real capital goods. If the rate of interest rises those real capital goods whose marginal productivity is declining are as far as possible replaced by some newer and more efficient real capital goods. Interest in this case serves as an incentive for change in the composition of real capital. In general, any factory tends to have only such real capital goods as promise to cover the current rate of interest out of their yield. This proposition is especially emphasized by Marshall.

It is usually said that when the rate of interest declines, the process of production is made longer. This is conspicuous when

a business concern expands and increases successive stages of production which are sometimes floated as autonomous enterprises. So, for instance, a cotton factory which had already spinning and weaving opens a dyeing establishment. In such a case, there will be a "capital widening" if we should use Hawtrey's terminology. On the other hand, a decrease in the rate of interest may bring about "capital deepening" *i.e.*, the use of an increased amount of capital for the given output. This measure represents a distinct process of substitution in favor of capital but does not necessarily increase the number of productive stages; on the contrary, it rather concentrates real capital either at earlier or later stages which are already in existence. Capital deepening which is stressed in particular by James Estey in his criticism of Hayek's "money overinvestment theory" of business cycles is especially conspicuous if a new major investment coincides with shifting of the non-specific factors in the same direction.

The standpoint developed by the second version of the atomistic pricing theory of interest is very vague and in principle wrong because the excess of the price of a product over its money costs in a static economy could not coincide with interest if such an excess existed since static interest belongs to the real costs and thus can not be deducted from total costs. To be however exact there is under static conditions no excess of price over costs whatsoever since any price is here an objectively normal price. In a dynamic economy only a surplus over the objectively normal net revenue which includes static interest represents the excess of the price over money costs and thus cannot be identified with interest as such. At the most one could say that a portion of the above-mentioned excess is absorbed by the dynamic interest. The second atomistic approach is interesting only inasmuch as it stresses the importance of profitability under normal capitalistic conditions. It is for instance evident that an eventual dynamic interest can appear only when there is a positive "price margin" between the realized price of the product and the respective money costs (including static interest). Roughly speaking the representatives of the atomistic approach hardly realize the difference between static interest and dynamic interest.

With regard to the pricing system, interest has a rather contradictory character, namely :

1. Since from the standpoint of a business concern interest is a cost, its decline makes production cheaper especially if the specific weight of interest in the price of the given product is great. This happens in the two following cases :

(a) when production requires a large or a long investment.

(b) if the actual rate of interest is very high.

2. Since from the standpoint of the national economy as a whole the money loan rate is price paid for the use of capital disposal its decline raises the demand for the technically productive real capital goods and durable consumption goods. Gradually the whole price level increases and the given product becomes more expensive. This tendency is accentuated by the fact that the decrease in interest enables the wholesale dealers to increase their stocks—which likewise raises the demand for finished goods. Such a development is stressed by Hawtrey.

In the longer run, the second tendency is rather more important than the first one so that the fall of the rate of interest will normally make the given commodity more expensive.

The forms in which interest appears can be reduced to the following cases:

1. Productive interest versus loan interest. This means roughly in Wicksellian terminology natural interest versus money interest. Productive or imputed interest is such a rate of interest which is directly connected with the use of real capital. In other words, it is a technological phenomenon and the fundamental concept of interest. On the other hand, loan interest is a monetary phenomenon and means such a rate of interest which has to be paid on the borrowed funds. In the last analysis, loan interest exists because there is a productive interest.

If we take these rates of interest from the legal standpoint, there will be an implicit interest versus an explicit interest. Any stockholder gets an implicit interest, although a corporation is not legally obliged to pay it since the interest is non-contractual and appears as a distinct supplementary cost in the Marshallian sense. On the other hand, explicit interest is a payment ultimately for waiting which is made on a contract. Consequently, this interest should be considered as a prime cost (at least of the second order) from the standpoint of a business concern.

2. Long term money interest versus short term money interest. The first kind of contractual interest is comparatively more important because it pertains to the demand for capital disposal which is sought for a longer investment and serves business expansion. Hicks and Lindahl maintain correctly that the long term rate of interest works less quickly on the price level but more permanently than the short term rate especially when people are used to planning far ahead. In addition it is important for the capital value of durable real capital goods. On the other hand, the short term interest which affects the borrowing for operating purposes and appears usually as a discount rate is an essential (even if not always an effective) tool for mitigating

business fluctuations and disequilibrium in the balance of payments. Since the short rate of interest is determined mostly by the banks, it is very sensitive to their liquidity policies. Under normal conditions, the shorter the length of time for which the loan is made, the lower will be the rate of interest. Hence, call money (*i.e.*, loans on which repayment can be demanded at any time) usually bears a lower rate of interest than the regular bank rate charged on short term loans because in this case a bank can quickly renew the loan at a higher rate if in the meantime the market rate of interest underwent an unexpected change. In times of financial panic, call loans carry on the contrary the highest rate of interest because they are advantageous for those people who want to borrow for a few days in order to hold on their stocks in the hope of a price recovery. Call money at 21% per annum would cost only 6% per day for every \$100. If the person in question borrowed for six months at 6% it would cost him about \$2.80 for every \$100 although he actually needed capital disposal for only a few days.

3. Gross rate of interest versus net rate of interest. Net money loan rate represents pure interest or the amount actually necessary under normal conditions to pay for the borrowed loan funds. It is theoretically the objectively normal money loan rate. On the other hand, the eventual gross rate of interest which varies widely is the interest actually paid on loans or virtually imputed as costs; it includes payment for other things, namely :

A. Some payment for the supervision which the capitalist has to maintain over his investment. Even a rentier who lives on his "unearned" income derived from property has to devote a certain amount of time to the investigation of the safety of different possible investments (alternatives); to the collection of interest and principal, etc. The net earning of a savings' bank (*i.e.*, difference between positive and negative rates of interest) is largely a payment for this sort of "supervision". Marshall defines such a component of the gross rate of interest as "earnings of management" which should not be confused with the wages of management that do not belong to this rate at all.

B. The gross rate of interest usually contains a risk premium which can be a part thereof in two different senses :

(a) It will be an "illegitimate" part if it virtually belongs to profit and could be imputed not as a portion of gross interest but as a contribution to a reserve fund. In this case, one has to do with remuneration for facing an "unmeasurable uncertainty," in Knight's terminology. So each entrepreneur has to take into account that a new better firm may enter the industry, that somebody simultaneously develops an innovation on which he

eventually works, etc. For this reason he may impute a much higher rate of interest than it is objectively necessary.

(b) It will be in a sense its legitimate part if it protects against a calculable risk which can be covered by insurance. Its source will be here rather a certain "cost saving". Besides, the risk will be in this case taken in the strict sense but the uncertainty will be less genuine.

Mostly the risk premium belongs to the first category. This is the reason why functional risk taking is inherent in entrepreneurship.

Risk premium in the first sense is usually very high not when a trade risk is involved, as, for instance, a risk which arises from a grave change in price due to an innovation or a new fashion, but when a monetary or a purely institutional change is feared.

When a consumption loan is granted, the risk premium (conceived as a compensation for the creditor's feeling of uncertainty) takes into account a very vague personal risk. This is true sometimes also of a productive loan because the creditor can fear that the debtor is apt to continue his speculative enterprise with borrowed funds when it shows signs of going against him or that he is not energetic enough and may fail. Especially under abnormal conditions even a regular productive loan tends to bear a considerable risk premium for purely personal reasons.

Gross rate of interest is a complex phenomenon just because it may contain simultaneously the reward for waiting or perhaps for a forsaken remunerative opportunity (*i.e.*, pure interest), earnings of management and risk premium. If we, for instance, assume that a person can get 3% on funds invested in such first rate securities which yield a safe income without any trouble or expense on his part but that he practically grants a loan at 4%, this implies that he gets a net interest of 3% and estimates his earnings of management at 1%, provided, of course, that the risk premium is neglected. Otherwise, the gross rate of interest will be still raised more above the current net interest. When the gross interest is high, it will restrict borrowing even if the actual pure interest is low. Virtually any portion of the gross rate of interest which is above the net interest *plus* a risk premium in the narrower sense belongs to the dynamic interest. A regular pawnbroker usually obtains an excessive gross interest which amounts sometimes to 25% in spite of the fact that any consumption loan which he grants is normally well covered by mortgages. The reason is not only an eventual usury but high earnings of management since his business is very troublesome and in addition requires a certain remuneration for an unpopular career.

4. Actual rate of interest versus nominal rate of interest.

(a) Such a difference can be found occasionally in the rates of interest charged by the banks. When, for instance, one wants to borrow \$6,000 the bank may require that the given person borrows \$12,000 at 5% and leaves \$6,000 on deposit with it. The borrower pays interest on \$12,000 but uses only \$6,000. This procedure implies that 5% is only a nominal rate but the actual rate of interest amounts to 10%. The same will happen if the bank charges a big commission for its credit transaction.

(b) The nominal rate of interest appears when interest is charged by finance companies on instalment plan purchases. The buyer of a commodity pays officially 10% but in reality much more. Suppose he owes \$120 and is requested to pay an interest amounting to \$12 per month during 12 months. The first month he will really pay 10% interest but since his debt will progressively decrease, the interest charge that he will have to pay will amount to 40% by the tenth month. The weighted average rate on the unpaid balances will be about 19%; thus 10% is a nominal rate.

(c) The actual interest on a bond depends upon the actual market price of the given security, for instance \$10. If this security yields nominally 10% interest per annum, its nominal market value will be \$100. If, however, the actual owner has purchased the given bond on the stock exchange at a price \$200, its actual rate of interest will be only 5%. This case is also typical of the shares issued by big corporations. Yet, in such a case we speak of an annual dividend and must be careful because it usually contains profit or surplus over the prevailing rate of interest.

(d) Since the exchange value of money (*i.e.*, its purchasing power) declines in periods of rising prices, and rises in periods of falling prices, the annual decline or rise in the value of money must be subtracted from or added to the nominal rate of interest to find the rate actually paid or received. If, for instance, the price level rises 3% per year a depositor in a savings bank that pays 3% actually receives no interest at all.

CHAPTER XIX

QUASI RENT AND PROFIT.

MAIN CHARACTERISTICS OF PROFIT

In contradistinction to interest, profit is not of itself a functional remuneration for a definite service, as it is assumed, for instance by Marshall and von Stackelberg, but a certain temporary "premium" upon a successful innovation linked with an outstanding business ability (as is pointed out by Schumpeter) or a residual net revenue obtained by a successful entrepreneur who finds himself in a temporarily lucky position on account of a positive difference between the realized price of his product and the objectively normal total costs. This implies that profit is necessarily an accidental surplus revenue of a distinctly residual and dynamic nature. This is stressed by Frank Knight, Cassel, Leon Walras, Fred Weston, etc. Since profit is never an absolutely certain eventuality, it can sometimes appear as a non-commercial windfall gain—which is rightly emphasized by Keynes and J.B. Clark. Besides, it is evident that the accidental character of profit implies that an "unmeasurable risk" in Knight's terminology serves as its effective background. If one takes into account that some entrepreneurs know to use a vague or immeasurable risk of a non-insurable character caused by unpredictable changes and conceived as a pure uncertainty, it becomes clear also that a personal business ability which is largely inherited as a free gift of nature should be recognized as one of the factors causing the emergence of profit. To be exact, if we say, like von Mangoldt and Knight, that profit is derived from an unforeseeable risk, we practically mean that its source is either pure luck if nobody can forecast it or business ability if only a few competitors can likewise foresee the risk.

We can sum up the main characteristics of profit as follows:

1. It is an accidental surplus revenue and thus not income in a scientific sense because it does not flow from a more or less stable source. It is, in a sense, a windfall gain.
2. It is an instantaneous surplus revenue of a highly dynamic nature because it cannot reappear as such but only may consolidate itself as some other form of income, for instance, as a quasi rent.
3. It is residual revenue or an excess over the objectively normal total costs of a firm (including the objectively normal net revenue).

4. It pertains to the whole business concern and not to a particular real capital good possessed by the given firm.

The first economist who made a distinction between interest and profit was J.B. Say; yet, he overstressed the significance of man's business ability so that for him any profit was virtually an earned supernormal wage of management. For this reason one should consider as the real founder of the profit theory, not Say, but von Thunen, who first openly defined profit as the residual after the deduction of interest, insurance for measurable risk and wages of management. Thus, he consciously separated profit, not only from interest but also from the wages of management. In other words, von Thunen wanted to say that profit is a surplus revenue which is obtained by a successful entrepreneur in excess of an objectively normal net revenue on account of his business ability or thanks to a sudden favourable change in the socio-economic data.

Since any profit is an accidental net revenue of a highly dynamic nature, it can be only a short-lived phenomenon and tends to develop either into a monopolistic revenue or into a peculiar provisional rent. This implies that profit and quasi rent are closely linked with each other although they never literally combine. The concept of quasi rent which is a price-determined and not a price-determining phenomenon was introduced by Marshall and later elaborated more fully by von Stackelberg. In contradistinction to a permanent rent, any quasi rent represents a temporary revenue which is in principle caused by the fact that any movement offsetting a firm's provisional differential advantage based, in particular, on the possession of reproducible superior real capital goods takes time. Quasi rent appears usually in the following forms :

1. As a provisional rent into which profit develops as it wanes.
2. As a sort of fictitious rent which is an excess over the average prime costs of the given firm. Here quasi rent does not represent a surplus revenue.
3. As a horizontal quasi rent which is not considered from the standpoint of the given business concern taken as a whole.

We can reduce the theory of quasi rent to the following propositions :

1. It happens sometimes that a firm gets a profit on account of a non-patented superior real capital. In principle any investment of this kind can be imitated. In practical life, however, such

an imitation takes time. In addition, quite a few superior real capital goods are indivisible and very expensive so that weaker competitor can install them only gradually. Should the differential advantage of the strong producer persist, the former surplus revenue will reappear for a certain period but will assume, from at least a theoretical viewpoint, the character of a monopoloid rent which will be a quasi rent because it will be wiped out as soon as the competitors become able to cope with the new situation by changing their plant capacity accordingly. Such a quasi rent is not a genuine monopolistic gain because there is no institutional obstruction, like a patent or a license. It is likewise no longer profit because it lasts as a regular income for a certain duration while a profit is an instantaneous revenue.

There can be a reverse case when quasi rent develops from a profit obtained by a business concern whose capacity of reconversion is superior because its real capital is less specific and thus its formal capital is less fixed. Again, in principle, any investment made in industry can be withdrawn; yet, in real life, one sometimes does not make any change when the situation becomes comparatively unfavourable because each change takes time and is costly. It is especially expensive to change the customary mode of production. The process of reconversion is distinctly long and risky when the given firm possesses quite a few specific factors. Consequently a business concern which enjoys a higher degree of convertibility or is able to change its formerly adequate technical co-efficient quicker and at a lesser expense than its competitors, gets an instantaneous profit which consolidates itself as a quasi rent (that is, as a provisional differential surplus revenue) because it can last only as long as the competitors are unable to carry out the firm's reconversion policy. This case is very distinct when a non-patented innovation requires a drastic change in the former productive routine.

2. A fictitious quasi rent is roughly measured by the difference between the realized price of the given product and the incurred objectively normal total prime costs which must be completely covered by the selling price even in a short run because otherwise production will be checked. These prime costs are almost exclusively of a variable nature and can be roughly reduced to the cost of the used raw materials and the wages of labor which is directly engaged in the production of the given commodity. Thus, here quasi rent is but a fiction because it is not derived from profit but only implies that the marginal producer who covers his total costs including all operational and imputed supplementary costs, like wages of management, interest on one's own investment, amortization, etc. possesses in the short run a differential advantage in respect to a submarginal producer who is unable to cover his supplementary costs. In the long run, however, any

present submarginal producer will have to earn the objectively normal net revenue (*i.e.*, to cover his average costs) because no entrepreneur can neglect for the duration his opportunity costs, concerning interest on own investment, wages of management, etc. Otherwise he will give up his business or will be forced out of it. This is true in spite of the fact that in accounting terminology there is no loss if the firm covers all contractual supplementary costs and depreciation.

So, the quasi rent in question is not exactly consolidated with respect to any given submarginal entrepreneur who causes its existence in favor of any better firm because he will try to wipe it out in the long run by becoming a marginal entrepreneur and will attempt in the short run to cover at least a portion of his supplementary costs. Consequently, if one wants to be exact, such a quasi rent has to be measured by the difference between the objectively normal supplementary costs of a marginal entrepreneur and the covered portion of the supplementary costs of an average submarginal firm that comes into consideration for comparison and which is supposed to have just the same supplementary costs as any marginal firm. One can say that from the standpoint of such a quasi rent, there is a real hierarchy of submarginal firms. Marshall virtually discussed the quasi rent of "fictitious nature" (in our terminology) although his presentation of this case was not very clear.

3. An intra-industrial rent of a purely accidental character which arises, for instance, when a farmer uses a piece of land of the given grade for cultivation of a product that fits better the respective kind of land and does this ahead of his competitors can be in part a quasi rent. In other words, an intra-industrial rent may represent to a certain extent a former profit after its consolidation but will contain simultaneously a differential rent of land. Thus, such a rent is of a distinctly mixed nature.

4. Not only a business concern but also an individual machine of new and superior design can enjoy a differential horizontal quasi rent if it cannot be rapidly reproduced or installed and thus cannot quickly displace any other inferior machine in the given factory. This will be true of any other durable real capital good like an acquisitively used boat. Yet, in all these cases, quasi rent represents a surplus over the normal capital rent yielded by an individual durable good. Since such an intra-structural rent of purely dynamic character must be imputed to a definite good and not to the business concern taken as a whole, it should not be identified with an ordinary quasi rent derived from a profit although it ultimately contributes to the total revenue.

There is still another and by far more important case slightly related to the preceeding when a vertical rent may be yielded by a worker or a machine which do not differ as such from similar employed factors but stand under pressure of the law of marginal productivity. Such a case is extremely complex. Let us remember that on account of this law every interchangeable factor unit is getting a "normal" reward, *i.e.*, is remunerated as the respective normal marginal unit. This implies, however, that any supermarginal unit of the given factor yields a certain vertical rent to the firm. Some economists, for example Samuelson, define such an intrastructural rent as "internal profit". There is no doubt, however, that a surplus of this kind is only an important source of profit and thus should not be identified with profit itself. As a matter of fact, profit is a remainder above contracted and imputed total costs concerning the whole business unit and not a gain above costs figured on each particular item as is correctly stressed by Professor Machlup.

Every entrepreneur combines various complementary factors according to his general profit seeking plan and normally pushes each particular kind of expenditure up to the optimum point. If he is successful, the realized price of his total product will more than cover the objectively normal costs, including all remunerations that ought to be given to the various productive agents utilized. This surplus will be his profit. If, however, he is unsuccessful, an aggregate loss will make impotent any vertical rent of the sort spoken of. Thus, such a rent is a distinct source of profit but not a profit of itself as is emphasized, in particular, by Richard Ely and Fritz Machlup.

Henry von Stackelberg considers the above-mentioned vertical rent as a type of quasi rent. We cannot, however, share his viewpoint because such a rent can never be wiped out with regard to the given productive agent since the law of marginal productivity never ceases to be a norm. It can only become ineffective from the standpoint of the given firm if there is a loss. Since vertical rent of the above-mentioned kind can not be defined by us as a provisional rent and any quasi rent which appears within a firm as an intrastructural monopoloid phenomenon is horizontal, we must refute also another of Stackelberg's contentions, namely, that such a rent is (like rent of land) a total rent.

Sometimes a contractual wage of management serves as a source of a horizontal quasi rent. So, for instance, a firm can employ a highly efficient executive whose outstanding business ability will bring for a certain time a quasi rent derived from profit. Since such an executive, if he does not share in the given quasi rent by means of a bonus, is in a sense "under-paid" by the firm,

he cannot be a stable source of differential income. There can be no "vertical rent" in this connection because an efficient manager is not interchangeable. In general there are no successive units of the so called "entrepreneurship"—as this is the case for instance in respect of labor.

Our analysis of quasi rent shows that this rent develops frequently from profit. When this happens in a direct way, that is, for some purely economic reasons, the given quasi rent assumes a monopoloid but not a genuine monopolistic character because in such a case there is no institutional obstruction or "blokada of entry to new techniques" (to use Joe Bain's terminology) which would help to consolidate the former original profit. Such a direct transformation of a profit into quasi rent takes place when for instance the given entrepreneur is himself an inventor who introduces his invention as a non-patented innovation or owns a site which happens to become a superior location for the given industry. In the latter case, however, quasi-rent will have a mixed "intra-industrial" character and may eventually develop into a permanent monopolistic rent, impure because it will be largely blended with the rent of land.

When the given successful entrepreneur is neither an inventor nor an owner of a superior location his profit will have to develop into the so-called monopolistic Paretian rents, because they will necessarily be based on some institutional impediment, like a patent or contract. In this case, the original profit of innovation will resolve itself into increased remunerations of inelastic factors which will go to the owners of the patent, to the owner of a unique location, etc. because all these owners are frequently able to appropriate the ensuing monopolistic revenue. If the elasticity of the given factors is provisional (which is the most probably case in our epoch of efficient substitutes) the Paretian rents accruing to the owners of the given factors will represent only a peculiar quasi rent which will be wiped out in the rather near future. Usually a profit of innovation develops into a complex quasi-rent which simultaneously responds to the Marshallian and Paretian approaches because the given dynamic entrepreneur will hardly fail to consolidate his position with regard to the respective owners of inelastic factors and thus will be able by means of a long term contract to secure a portion of the given quasi rent.

Quite a few modern economists, like Pareto, Joan Robinson, Boulding, John Cronin, Bain, etc., emphasize the existence of a "normal profit." This concept is, however, very controversial and is frequently misused. For instance, Ammon and John Due maintain that normal profit comprises rent on one's own land, interest on one's own capital and an adequate wage

of management. Joan Robinson in the last analysis means the same. Such a definition of normal profit is, however, inadmissible because it distinctly pertains to a normal net revenue of the managing owner of a business concern which is a part of the objectively normal costs. In the last analysis, only profit is really (even literally) a net revenue of the entrepreneur because it represents a surplus over his objectively normal opportunity costs. Yet, is permissible to define the latter revenue which is not a profit as the objectively normal "net" revenue (as we are used to) since it is composed of very distinct imputed supplementary costs in the Marshallian sense that are a part of the entrepreneur's income.

Lester Chandler and Gaetan Pirou partly realize the fact that the objectively normal net revenue still belongs in principle to total costs because they maintain that such revenue is that part of the gross profit which is not a profit in the narrow sense. They make a mistake, however, by trying to incorporate the objectively normal net revenue into a "gross profit" whose existence ought to be denied by any economist who understands the essence of profit. One really could eventually speak of a gross profit but only in the sense that such a surplus revenue is not entirely appropriated by the entrepreneur himself but is in part resolved into Paretian rents and dynamic interest. Close to Chandler's position is that of Joe Bain who defines the objectively normal net revenue as that part of "accounting profit" which does not represent a true or "pure" profit since it is imputed and thus is not a genuine residual. Bain's definition is superior to that of Chandler or Due inasmuch as it stresses that imputed wages of management, interest and rent are a surplus revenue only from the standpoint of accounting.

Even more unacceptable is the position of Chamberlin who goes so far as to emphasize the supposed identity of profit with costs by saying that the "minimum profits" are a cost of production to the extent that the businessman who requires them concerns himself with the efficient conduct of his plant and costs of selling to the extent that he devotes his time and energies to building up his connections. It is quite apparent that profit as an accidental revenue never can be a portion of the objectively normal total costs and that Chamberlin's contention practically restores Say's confusing assumption that profit represents a super normal wage of management. Pretty close to Chamberlin's position is that of William Kiekhofer who distinguishes between "necessary profits" that represent entrepreneur's remuneration for the socially necessary function of risk taking and "surplus profits" which constitute an extra prize attained by a successful entrepreneur. If this contention were true there would be a "normal profit" which should be considered as a portion of the

objectively normal net revenue but not a residual revenue of a super-marginal firm. Somewhat better would be an interpretation of Joan Robinson's main definition of "normal profit" as that level of profit at which there is no tendency for new firms to enter the trade or for old firms to disappear out of it. Still better would be likewise under special assumptions, the definition proposed by Benjamin Higgins who considers normal profit as transfer or opportunity costs of entrepreneurship.

Under perfect competition which is congenial to a total equilibrium system, there can be no profit whatsoever because in this case each firm applies the least cost combination (*i.e.*, sells at its lowest average cost) so that there are practically only the marginal firms which sell at the objectively normal costs. Should free competition be shaped as a slightly dynamic phenomenon there will be a certain profit derived from the indivisible factors which cause a lumpy expenditure on modernized equipment and institute a differential advantage in favor of some more efficient firms. It is evident that such a profit can never be a norm and that it consolidates itself as a quasi rent. Furthermore, under slightly dynamic conditions, some entrepreneurs in some remote communities may subjectively modify the prevailing objectively normal net revenue downward and thus provoke the appearance of a quasi rent of a super-fictitious nature provided that they are in reality from the standpoint of a national economy as a whole submarginal enterprisers.

If there is regular pure competition, normal profit can eventually appear but only in a rather theoretical and limited sense. Let us recollect that the main principle on which pure competition is based is not only multiplicity of costs connected with a hierarchy of firms but also a distinct equalization of actual objectively normal net revenue expressed in terms of money. Thus, under pure competition, each marginal firm in any branch of the national economy gets an equal objectively normal net revenue (*i.e.* a "normal return") but of course enjoys no profit whatsoever. On the other hand, any super-marginal producer obtains a certain profit which can be derived from various sources like successful innovation, lucky change in demand, better management, etc. Machlup maintains that under pure competition an entrepreneur will obtain a profit not only from an accounting standpoint but in a real economic sense when he is able to cover all opportunity costs of all the factors hired and owned. We cannot share, however, this view because if an entrepreneur succeeds in covering all objectively normal opportunity costs of a regular marginal firm, he will simply enjoy a distinct, even an economically perfect normal net revenue but not a profit. In order to be able to get a profit, the

given entrepreneur must secure a surplus over the actual objectively normal net revenue. It is now clear that Joan Robinson's concept of normal profit might also pertain to this kind of surplus revenue although she personally interprets it otherwise. Namely, it can happen that a new firm will enter the given line of business if it expects a minimum profit (rather quasi rent) which is normally determined by the surplus revenue (*i.e.* by an excess over the objectively normal opportunity costs of a marginal entrepreneur) secured by the least efficient supermarginal entrepreneur in the given branch of the national economy and expressed in percentage of the entire involved active investment. This implies that also Higgin's definition of normal profit is acceptable if it is modified in the following way; normal profit under pure competition is determined by the objectively normal transfer (or opportunity) costs of the least efficient supermarginal entrepreneur which are represented by the minimum quasi rent. Under such an assumption, each least efficient supermarginal firm will tend to equalize not only the objectively normal net revenue (as a marginal firm) but also a modest surplus over it. Thus the objectively normal opportunity costs will have in this case two consecutive levels. Such a definition of normal profit will become still more logical and permissible if one introduces the following assumptions :

1. Equalization and thus normalization of profit is an interindustrial phenomenon. In other words, it does not occur within an industry but pertains to the least efficient supermarginal firms of each industry. Only in this case one can really say that the appearance of a larger "minimum" profit will expand the respective industry.

2. The whole system of least efficient supermarginal entrepreneurs (or firms) represents at any given moment a certain distinct "non-competing group" with regard to the marginal entrepreneurs who equalize only the objectively normal net revenue which is in principle as intra-industrial phenomenon. This is, however, a theoretical simplification because in reality an actual marginal firm of the given industry may try to become the least efficient supermarginal firm of another industry.

3. Equalization pertains practically not to the profit but to the quasi-rent into which it fades because the least efficient supermarginal entrepreneur will hardly change his line of business if the least efficient supermarginal firm of another line gets an eventual instantaneous profit which does not consolidate itself.

4. Any better supermarginal firm gets a quasi rent which exceeds the given normal minimum quasi rent since its surplus revenue is caused by a major factor like a serious innovation

which cannot be at once imitated. Such an excess quasi-rent cannot be equalized.

Thus, roughly speaking, normal profit is in our interpretation the actual minimum profit or better minimum quasi rent obtained by the least efficient supermarginal firm and expressed in percentage of the entire active investment. We can more easily expect the normalization of a minimum than of an average quasi rent not only because it is difficult to compute an average rent but also because the techniques of a better supermarginal firm can hardly be quickly imitated. It is evident that a normal new-comer to the industry will be in real life attracted by the minimum surplus revenue which could be more easily attained by him in a short run.

If a better supermarginal firm introducing a non-patented innovation achieves a considerable profit and consolidates it, the result will be a quasi-rent in favor of this firm. An intra-industrial movement will ensue if any other supermarginal firm of the given industry tries to imitate the policy of the first concern. When this process comes to its end the minimum quasi-rent in the given industry will frequently rise but the surplus revenue of the pioneering firm will usually decrease. Somewhat later there may begin a similar interindustrial process which will tend to raise the objectively normal opportunity costs of the least efficient supermarginal firm in each industry belonging to the given national economy.

We must, however, emphasize that in the real dynamic economy there is under free competition only a very distinct equalization of the objectively normal net revenue while normalization of a quasi rent obtained by the least efficient supermarginal firm has but a certain degree of probability. Yet, such an hypothesis is quite permissible, perhaps even desirable.

If there is impure competition of a polipolistic nature, one will find a somewhat different development. In such a case, there will be a polipoly permeated with monopolistic elements but not a pliapoly. In other words, polipoly will pertain here usually to the institutionally protected heterogeneous products or brands. One might for this reason assume that the respective producers form a restricted separate group and compete ultimately within the group itself. It is not excluded that each member of this group, if it is not too large, will represent from the standpoint of the national economy as a whole a supermarginal firm so that even the least efficient brand will yield a certain surplus over the objectively normal opportunity costs of the actual marginal entrepreneur. Such a profit will consolidate itself as a monopolistic quasi rent which will assume the character of an "absolute" surplus revenue if it is received also by the marginal

producer within the given restricted group. In the case of such monopolistic competition, one cannot expect "normal profit" if one assumes the existence of a large number of producers supplying a large number of strictly differentiated products so that an equalization or normalization of the surplus revenue would be practically unrealizable. If the number of producers is not too large and the respective heterogeneous products have a considerable mutual substitutability, there will be a very distinct competition within the given restricted group but hardly a normalization of profit or rather of "monopolistic revenue" because the products themselves will exclude any major equalization being institutionally protected as separate brands. Thus a less successful supermarginal producer will be unable to turn to a more attractive production of a competing brand. In other words, impure non-oligopolistic competition implies that there will be quite a few provisions¹ monopolistic revenues but no normal profit or rather no normal quasi-rent. An intra-industrial equalization of such a surplus revenue will be impossible since there is a polipolistic production of brands that enjoy an institutional protection which will also preclude any equalizing inter-industrial movement.

The picture changes fundamentally when there is oligopolistic competition which pertains to homogenous products because pure oligopoly means a small number of producers practically protected by closed entry so that they usually curb their competition by making at least a tacit agreement especially if they do not operate at close to capacity output. Consequently, such an oligopoly is a distinct restricted group which ultimately fights only for the consumer's dollar just like a genuine monopoly and often achieves for itself a conventional equilibrium, that is, fixes an equalized monopolistic revenue. Just this development is rather the only case when one can literally speak of a distinct "normalized" profit that consolidates itself as a changeable monopolistic revenue. If there is an incomplete organized oligopoly the price leaders may fix a certain surplus revenue for the weaker firms while appropriating themselves a much larger monopolistic income which can be likewise normalized. There is in this case practically a distinct uneven distribution of an aggregate monopolistic revenue over the members of a restricted producers' group.

If an oligopoly pertains to the producers of differentiated products the whole development is often the same because under such conditions the brands are few and represent often some rather close substitutes, like different automobiles, typewriters, etc., so that a normalization of monopolistic revenue is not improbable provided of course that the degree of the product differentiation is low. This is true even when there are some

insignificant outsiders producing substitutes in a broader sense because the few powerful producers of the closely related brands can treat them in the same way as they treat a competitor for the consumers' dollar, that is, practically as a foreign body.

Roughly speaking, any kind of oligopoly may normalize monopolistic revenue derived from profit and may tend to make it as stable as possible. A new profit of a single firm can appear in this case as a disturbing element only if a new firm is floated—which is rather exceptional since under assumed conditions there is at least practical, if not legally, a closed entry. The same holds true when an efficient oligopolist wants to introduce a new brand; he will hardly be able to do this without a collective adjustment based on a precise agreement.

If we sum up the formation of surplus revenue under impure competition of oligopolistic nature, we shall have to distinguish between the two following cases :

1. If brands are very few and are close substitutes in respect to each other, the normalization of the actual monopolistic revenue derived from profit is almost certain. This case is akin to pure oligopoly.

2. If brands are not too few and quite different although there is still differentiated oligopoly, the development will be similar to that under ordinary impure polipolistic competition. In other words, a normalization of the given monopolistic revenue will become practically unrealizable. This case is akin to pure competition, which precludes any conventional equilibrium.

If there is pure monopoly, (*i.e.*, a single producer of the given commodity) there can be in principle no normal surplus revenue because this revenue will be unique and will have a distinct monopolistic nature since it will be based under modern conditions on a some exclusive institutional privilege. If one wants to be exact, a monopolist gets a roughly exclusive surplus income which has a distinct "monopolistic", *i.e.*, institutionally protected character. We use here the term "monopolistic" just in the same sense as it is employed in the works of Nicholas Kaldor. On the other hand, one cannot deny that such monopolistic income can turn out to be a peculiar quasi-rent because in the long run it can be destroyed by the appearance of a good, close substitute or by revocation of the institutionally protected differential advantage. This implies a distinct difference between a real eternal rent (like; for example, the rent of land) and a monopolistic revenue. One cannot literally remove a permanent rent while the latter revenue is in principle conditional. The

only more or less easy way to wipe out a permanent rent is to shift it to the government by taxing it. On the other hand, a monopolistic income can be even literally eliminated. When however such an income is of a mixed character (*i.e.*, is in part due to a superior location), one can only reduce it to a smaller permanent rent by wiping out its institutional part. The fact that a presumably stabilized surplus revenue of a private monopolist can be easily discontinued by the state repudiates the contention of Hicks and J.M. Clark that "the best of all monopoly profits is a quiet life."

There are still some controversial problems concerning profit namely :

1. Joan Robinson and Fritz Machlup maintain that a long-lived and thus written off real capital good yields a profit when it earns something. Their idea is not exactly correct because one should speak in this case normally of a monopoloid quasi-rent since in the long run any real capital good must be entirely worn out and thus its yield must disappear. It is evident that usually in such a case there is no instantaneous profit but a regular horizontal quasi-rent pertaining to a definite single real capital good which has an artificial and partly economic but not a technical superiority. If a machine is institutionally depleted, that is, was written off on account of its presumed obsolescence and was put into storage, there is a distinct loss for the firm in the given period. If, in a later period, for instance, on account of a major war, the written off machine under discussion could be profitably used again in spite of its comparatively lesser efficiency, its contribution to the total surplus revenue will first cover the previously incurred loss and after that may consolidate itself as a horizontal quasi-rent. If, however, a productively consumed and stored machine suddenly (*e.g.*, in the case of a real boom) starts to earn something, its yield could be considered in the first year as a certain profit. It should be noted that such a machine usually raises the average variable costs so that its profitability will be in any case modest.

2. Some economists who like Spann emphasize that the state or community contribute to each good a "community maturity" maintain that profit cannot be attributed to the given firm but is a result of a distinct collective effort. In particular, the Russian non-Marxian economist, P. Georgievsky and Gaeten Pirou consider profit as a peculiar "societal" net revenue and for this reason conclude that it should be shared by the state and the workers. Although such a standpoint has a certain justification, it still cannot be accepted by us because profit is frequently derived from a mere luck or on the contrary from a foresight of the given entrepreneur. It should be noted that a sound

social order is rather a pre-requisite for quasi-rent while a large profit can be reaped during a civil war. It is still more impossible to agree with von Stackelberg and John Ise that the "entrepreneur's income" or the "entrepreneur's rent" are composed of the wages of management and profit in the strict sense. If we wanted to use the latter concept, we could at the most say that entrepreneur's rent is composed of a quasi rent derived from profit plus an eventual excess over the objectively normal wages of management.

As to the entrepreneur's income it never can be abstracted from the interest on his own investment and cannot contain a surplus revenue which does not flow from a definite source. Besides, as every businessman knows fortunes can be made by strong capitalists out of financial panics by the simple expedient of buying up the property dumped on the market at a sacrifice (or distress) prices. This proves that von Stackelberg is rather too optimistic when he assumes that the community pays the "entrepreneur's profit" always on account of cheaper and better methods of production or because entrepreneur's function is scarce. For the same reason, we cannot follow Kiekhofer when he says that profit is a functional return for the discharge of the socially necessary function of risk-taking.

3. Not only static interest, that is a cost should not be confused with profit as still frequently happens, but also dynamic interest ultimately derived from profit should not be identified with its source. In other words, dynamic interest is a contractual surplus over static interest while profit is a non-contractual surplus over the entire objectively normal net revenue which includes static interest. Thus, profit is necessarily bigger than dynamic interest which, however, can eventually imply a loss. Profit as residual income is never contractual but wages of management are of a contractual nature when they are received not by a self-employed entrepreneur who is hired by a corporation even if the respective firm practically belongs to him. If the given firm pays an abnormal wage of management to its leading executive, the excess over the objectively normal wage of management has a purely dynamic character and is derived from profit but has nothing to do with the objectively normal net revenue—as is assumed by John Due. Such a payment will be considered by the firm as a concealed bonus while the manager himself will treat it as his monopoloid rent. Although the manager of a large business concern usually has a benefit when there is an increase in profit or rather in quasi rent, he often regards the retention of control as at least as important as the maximizing of surplus revenue. This is especially true if he himself is a considerable shareholder. Otherwise, he may care more for security than for profitability or control.

A part of profit can accrue also to a capitalist to the detriment of the entrepreneur when the gross interest paid by the firm contains a distinct remuneration for the risk taking or dynamic interest. This case is stressed in particular by J.B. Clark. Besides he and Pareto are right when they say that monopoloid revenue derived from profit (in our terminology) can be gradually, at least in part, shifted to labor since wages may increase if the firm is prosperous.

In the socialist totalitarian Soviet economy there sometimes appears a genuine profit caused by reduction of the real costs of the given business concern belonging to the state. This spontaneous surplus net revenue represents a distinct profit of innovation and 50% is assigned directly to the government. On the other hand, there can be still another kind of "profit" which is caused by the fact that mostly there is a uniform fixed price based on the so-called "planned costs" while some state factories belonging to the given branch of industry have in reality lower costs. The state usually appropriates 60% of this kind of profit. In addition, some state business concerns should (at least in principle) yield a fixed-planned profit" which is not uniform and is usually upto 95% assigned directly to the Soviet government. Such a planned or fixed profit reminds us at first glance of an oligopolistic "normal profit" that likewise consolidates itself as a prescribed monopolistic revenue. Yet, in reality, one has in this case in Soviet Russia simply a certain additional indirect tax caused by the planned price formation which supplements the excessive sales tax amounting very often to 60-80% of the price. The existence of these two combined extremely high indirect taxes virtually divorces any Soviet price, especially that of consumption goods, from the respective costs of production.

Summarizing we can say that the theory of profit will lose its present confusing character if all economists agree to accept the two following propositions, namely :

1. That there is a difference between profit and quasi-rent of monopoloid or monopolistic nature into which profit fades. Until now, perhaps only Schumpeter has realized this fact when he distinguishes between "monopoly profit" which is caused by an entrepreneurial action and "monopoly revenue" that is a roughly stable return into which profit from founding a business or pioneering innovations fades.

2. That the eventual normal profit should not be confused with the objectively normal net revenue which is a part of the objectively normal costs. In other words, profit is not only a non-contractual, uncertain and instantaneous revenue but also a genuine surplus revenue which pertains exclusively to a super-marginal firm.

CHAPTER XX

TOTAL OUTLAY

The theory of total outlay has ultimately the three following characteristics :

1. It treats national income rather as a problem of production and employment.
2. It attempts to show the movement of social product during the given period.
3. It tries to answer the question whether general over-production is possible, that is, whether there is really a discrepancy between total outlay to the factors and total spending power within the national economy during the given period of time. By the latter phenomenon, we understand the total effective purchasing power which is actualized by the aggregate effective demand.

There are, however, several different approaches to the problem of "total outlay" so that we have to distinguish at least the six following theories :

1. "The theory of the circulation of total output" developed by the physiocrats, in particular by Francis Quesnay in his famous "Tableau Oeconomique", first printed in 1758. This theory is usually known as an analysis of the circulation of the "produit net" and represents perhaps the real beginning of economic "macroscopics", in Paul Sweezy's terminology.* It impressed very much the thinkers of the time. Mirabeau, the elder, went even so far as to class this theory with the invention of writing and money as one of the most important discoveries of the human mind.

2. "The theory of markets" (of the outlets for goods), introduced by J.B. Say who is considered as one of the most important promoters of Smithian economics in continental Europe. Say's approach was further developed by Ricardo and by both Mills.

3. "The theory of the simple reproduction of capital" introduced by Karl Marx which was later supplemented by his theory of the reproduction of capital on an enlarged scale. Out of this approach arose the special theory of capitalistic production emancipated from consumption that was developed by Tugan-Baranovsky.

* We can also say that this was the first "inacra-economics" in the narrow sense.

4. "The theory of oversaving" presented by Malthus which has a certain affinity with the "Theory of underconsumption", introduced by Simon de Sismondi and reshaped in our time by J.A. Hobson.

5. "The theory of absolute discrepancy between total costs and total purchasing power in circulation" introduced by Major C.H. Douglas.

6. "The theory of relative discrepancy between total costs and total spending power" introduced in a rough form by Marx and modernized by us and Gordon Hayes. Perhaps, also, Albert Hart, D. Robertson and Chandler could be mentioned in this connection. A somewhat authoritarian version of this theory is given by Keynes, Alvin Hansen, and Sir William Beveridge.

The first approach is comparatively the most primitive; it is the only one which pertains to a partly manorial national economy. It assumes that the net surplus product is produced entirely by the cultivators (at that time peasants) who thus represent the only productive social class. Yet, the creation of such a product is connected with the fact that cultivators of the soil have to pay a rent to the landowners and want to acquire some goods manufactured by the urban industrial communities. The landowners (that is, king, landed nobility, church, etc.) are supposed to represent a purely distributive class. Their main function is to maintain their properties and to distribute the purchasing power in terms of money obtained from the peasantry and thus to generate the entire economic activity of the nation which would be otherwise reduced to the reproduction of the means of subsistence and of the factors of production needed exclusively by the productive class itself. In addition, the landowners are supposed to serve the state, to render spiritual services and to promote crafts. All the industrial and commercial activities are carried out, according to Quesnay, by a sterile class which lives on a derived income received from the peasants either directly by satisfying their wants or indirectly by furnishing the landlords with the produce of the urban crafts. This class is supposed to be useful since it raises in different ways the objective utility of a part of the net surplus product, yet still unproductive because it cannot increase this product and thus simply covers its annual living expenses by creating an adequate "surplus value" which is accepted by the other two social classes as a matter of fact. Thus, practically everybody lives on the work of the peasant who feeds himself and furnishes food and raw materials to everyone else. In particular, the powerful distributive class enjoys comfort and promotes culture and crafts only because the peasantry cultivates land and raises a crop from it.

A very simplified account of the analysis in Quesnays' "Tableau" would be as follows: the peasants reproduce for 2,000 million livres their living expenses in a broader sense (that is, their food, seeds, amortization of tools, etc.) and pay the "proprietors" (that is, distributive class) 2,000 million livres in money which they are supposed likewise to regain constantly. This latter action makes the existence of a sterile class possible while it induces the peasants to create a "net surplus product" (that is, to produce above their living expenses) which will amount to 3,000 million livres and will consist of two-thirds in food, the rest in raw materials. The proprietors spend their income derived from rent on buying 1,000 million livres' worth of food from the peasants who thus receive back one half the amount of money they have paid out. The landowners then spend the second half of their rental revenue on the purchase of manufactured goods from the sterile class, who spend the money thus received on buying food from the peasants. The productive class now spends 1,000 million livres in buying manufactured goods from the sterile class who spend the money thus received on buying food from the peasants. Besides, the productive class now spends 1,000 million livres in buying manufactured goods from the sterile class who sends the money back in return for raw materials. The process is now completed. The peasants are left with 2,000 million livres in money which will serve to set the whole process going again in the next period. The annual gross product attained 5,000 million livres while the food part of the "produit net" went to the proprietors and to the sterile class, the raw materials part to the latter alone. The sterile class was enabled to produce 2,000 million livres' worth of manufactured goods which were evenly divided among proprietors and peasants. Roughly speaking, 2000 million livres in cash injected as rent and supplemented by 2,000 million livres' worth of agricultural products used by the peasants themselves give rise to a "surplus product" of 3,000 million livres in terms of food and raw materials plus 2,000 million livres' worth of manufactured goods.

The theory of total outlay as developed by the physiocrats has some serious shortcomings, namely:

1. If agriculture is productive because it creates a net surplus product, then mining cannot be sterile since it does exactly the same thing. Turgot tried to excuse this inconsistency by contending that the miner digs out a good entirely created by God while a peasant actually participates in the creation of agricultural products. This is, however, not an argument because the farmer makes his contribution to the productive process by controlling the process of vegetation which is in principle independent of him. On the other hand, a miner has to make an

effort and thus to incur some costs before the given ore is actualized as a net surplus product. Consequently, man also in this case rather assists the work of his divine Creator.

2. Quesnay's approach is based on the assumption that the sterile class creates a "surplus value" which is equal to the value of food and agricultural raw materials consumed by it in a final or productive way. This assumption is virtually the beginning of the subsistence theory of wages. Here, however its formulation is rather primitive and drastic because the sterile class of the physiocrats is composed not only of the workers. If this proposition were true, no businessman would be able to accumulate capital.

3. The scheme developed by Quesnay is of a distinctly static nature because ultimately nothing changes year in and year out although there is a constant movement of material goods and means of assignment.

In spite of all such inconsistencies and fallacies, Quesnay's "Tableau" is a lasting and considerable contribution to economic theory because it was the first attempt to seize analytically the regular creation of a social product, its circulation and its distribution over different social classes. In addition, Quesnay's scheme contains a nucleus of the modern theory of the multiplier even if again in an unrealistic kinetic form.

Since Quesnay's essay until the appearance of the Marxian economic analysis nobody attempted to study the circulation of the social product in a distinct mathematical way. Yet, the theory of total outlay was not neglected because John B. Say tried to reshape it in a literary way and to adjust it to the then prevailing capitalistic conditions. Say's attempt was even in his own time recognized as the only classical theory of total outlay. It is paradoxical that Say himself repudiated this approach after his famous controversy with Malthus. Yet, Ricardo and both Mills adopted Say's "law of the markets" and widely propagated it. This is especially true of James Mill. At present, this law enjoys a considerable popularity in British economic literature where it is advocated with a greater or lesser fervor by Hayek, Lionel Robbins, Pigou and Strachey. Also, Marshall and Wicksell adhere to this approach. Say's theory of total outlay which is a good specimen of full nomography can be reduced to the following propositions :

1. Supply creates its own demand because every sale means a purchase and vice versa. For instance, supply of wheat may imply demand for cotton. Thus, production furnishes its own purchasing power.

2. Saving is a certain kind of spending.

3. Increase in investment can take place only at the expense of consumption, the reduction of which is insured by a higher rate of interest. It is assumed that there is a full employment of resources.

4. In order to create employment, it is only necessary to set men to work because the incomes earned by them provide the demand absorbing their production so that unemployment is at most a passing frictional accident.

5. Costs are equal to incomes and expenditures are equal to costs. In other words, total spending power equals total production.

6. There can be no general overproduction but only overproduction of some goods balanced by underproduction of others—which means an “ill assorted production.” In other words, a certain crisis can be provoked by a wrong allocation of resources but not by a general deficiency of demand.

The last proposition is practically derived from the first one because if goods are really the demand for goods, there can be only a partial overproduction of a rather kinetic nature which may, however, occasionally provoke a certain minor crisis. Since every sale means a purchase, every cost item will give rise to income for someone and this income will act as a spending power because every income implies at once a sale and a purchase. So, for instance, wages paid by a business concern to a worker are costs but these costs are income of the given worker who sells his effort and at the same time acts as a purchaser of some final consumption goods. This implies that the given worker generates the income of another man who will likewise simultaneously carry out a selling and a buying transaction. Such an assumption necessarily led Say to another renowned conclusion, that deferment of consumption is identical with the process of investing funds, while investment is always derived from saving. Thus, Say represented the static theory of credit and disregarded hoarding.

Some of his followers did not deny that hoarding does sometimes occur. Yet, they held that this would not reduce “purchasing power”, for prices—and presumably costs—would fall enough to allow the entire capacity output to be purchased with the remaining money expenditures. This implied that they believed in an extreme elasticity of costs and in an automatic adjustment of the means of payment to the volume of production.

Say's approach has apparently quite a few weak points which can be summed up as follows :

1. It pays no attention to the most essential fact that there can be a time lag between different economic actions. So, selling in a money exchange economy does not necessarily mean buying. If a manufacturer sells a product he may eventually immobilize proceeds at least for a short duration. This will necessarily happen if the given entrepreneur expects a cheapening of the factors in the near future. Furthermore, saving does not always mean a simultaneous investment. Some individually saved funds which are entrusted to a bank can occasionally remain immobilized for a while, that is, can be absorbed in idle money balances because (as Gordon Hayes puts it) the bankers are sometimes unable to find attractive investments. According to Hayes, the practice of encouraging deposits to maintain large balances does not come from a bank's desire to use the deposits but rather from a desire not to pay cash to another bank to whom checks may go when deposits are reduced. Besides, some individual savings kept by a bank can be invested abroad so that they will not give rise to immediate additional spending power at home. It is evident that Gordon Hayes means an ultimately mature economy in which in consequence of the slowing down of "extensive growth" (population growth, territorial expansion) the inducement to invest becomes comparatively weak. It seems to us that the growing lack of investment opportunities is connected nowadays in large measure with the increasing uncertainty caused by the development of institutional rigidities and abstractions of any kind which is correctly pointed out by William Fellner.

It should be stressed that Say neglects the fact that not every deferment of consumption means saving which causes an investment; it can be plain hoarding. This is, however, more conspicuous in our present stormy epoch. Still Bohm-Bawerk ventured to say that an economically advanced people does not hoard.

2. Say's approach pays no attention to the fact that a certain portion of capital disposal (investing power) can be eventually created by the private commercial banks even in a literal sense so that the total investment may exceed saving. We share the opinion of Gordon Hayes that Keynes in spite of his ambiguous terminology never accepted Say's assumption that total investment necessarily equals saving—as is frequently assumed—because, according to him, saving and investment only tend to become equal. In other words, Keynes wanted to say that the failure to invest savings reduces incomes and this decreases money savings on the next round whereby this process continues until savings fall to the amount that is invested. Thus, according to Keynes, an equilibrium between total saving and

total investment is rather a certain norm that can be attained at any given moment but from which real dynamic life constantly deviates. One must rather admit that Keynes did not revolutionize the theory of saving but only modernized the classical standpoint by assuming that the tendency to equalize saving and investment is served not by the changeable interest rate but by the changing volume of incomes. In this respect, he is followed by quite a few economists, like, for instance, Bertil Ohlin and D.H. Robertson.

3. Say's approach overlooks the fact that many newly created branches of industry are from the beginning distinctly labor saving. This is especially accentuated by the initial high degree of mechanization and in particular by the use of a strictly rationalized conveyor system. Consequently, structural unemployment cannot be brushed away as trifling.

4. It is risky to say that expenditures are equal to costs. Quite a few supplementary costs in the Marshallian sense are in the short run neglected so that calculated costs fall short of real costs symbolized by expenditures in real terms. Furthermore, some costs conceived as expenditure give rise to an income immobilized by its receiver so that in this case there will be no obvious relationship between the costs (expenditure) of one economic subject and the expenditure (purchase) of another one in spite of their close contact.

Say's theory of total outlay was in a sense remodeled by Marx who likewise tried to prove that there can be no general overproduction provided however that the total product is not 'ill assorted' (to use Mill's terminology). This implies that Say's standpoint is not identical with that of Marx since he admitted only a partial overproduction. On the other hand Marx distinctly insisted that a smooth development of production without a general periodic crisis is possible only if there is no disproportionality between the industries producing producer's goods and those producing consumer's goods. At first Marx developed a static picture defined as "simple reproduction of capital". Later, however, namely in Volume III, he presented a more dynamic analysis which showed the reproduction of capital on an enlarged scale. Some rather casual sentences made by Marx prove that he gradually passed beyond his mathematical schemes of total outlay and laid the foundation to the modern theory of a relative discrepancy between total costs and total spending power. In addition, he accepted Sismondi's theory of underconsumption. All this implies that Marx developed a rather complex progressive approach to the problem of total outlay. Particularly well known, however, are his mathematical schemes which we shall present here in a simplified form. Yet, even a simplification of

these schemes will not make them understandable unless we first clarify the five following concepts on which they are based, namely :

1. By constant capital (C) Marx understands the entire outlay concerning materials and equipment, in particular amortization of real capital. He does not mean, however, fixed costs in the usual sense because the expenditure on materials comes chiefly into the category of variable costs. According to him, constant capital does not alter its value in the process of production ; it only adds it to the commodity that is being produced. Consequently, it cannot give rise to surplus value.

2. By variable capital (V) Marx understands expenditure on wages or the entire "wages bill" as the Marxian economists are used to saying. It should, however, be noticed that outside of the schemes under discussion, Marx frequently understands by C and V, not the above-mentioned outlays but simply real capital and purchasing power saved for employing labor.

3. Total production (or total outlay) according to Marx means net product plus constant capital while surplus (S) is the difference between net product and the outlay on wages which is constituted by profit, interest and rent.

4. Consumption goods' industries are, according to Marx, not uniform because the wage goods' industries whose produce is partly consumed by the workers and in part by the capitalists differ from the luxury goods' industries which gratify exclusively the wants of the capitalists.

The static scheme of Marx which pertains to the so-called "simple reproduction" assumes that the given constant capital is only reproduced so that there is no dynamic saving and the entire "surplus value" is consumed by the capitalists. This scheme taken in a somewhat simplified form looks as follows :

I Production of producers' goods					
4,000	plus	1,000	plus	1,000	equals 6,000
c1		v1		s1	
II Production of consumers' goods					
2,000	plus	500	plus	500	
c2		v2		s2	equals 3,000

The fact that the production of the factors is bigger than that of the consumption goods is rather typical of capitalism. The last two items of the second formula (II) represent consumption since they are simultaneously costs and incomes. In other words,

workers and capitalists producing consumption goods use their remuneration amounting to $500 v_2$ plus $500 s_2$ for buying the corresponding portion of the produced consumers' goods whose costs equal $500 v_2$ plus $500 s_2$. As to the first item of the formula II, namely $2,000 c_2$ it is assumed that the respective consumption goods are consumed by the capitalists and workers of the first Group (I) whose remuneration amounts to $1,000 v_1$ plus $1,000 s_1$ and thus equals 2,000. "C" in this case is rather a mere symbol. The remaining $4,000 c_1$ simply reproduce themselves whereby it is supposed that amortization of this constant capital goes on systematically without any interruption. Thus, real capital belonging to the industries which produce the factors of production has according to Marx a special significance. In the case of a dynamic reproduction of capital on an enlarged scale the capitalists producing the factors are supposed to save and to invest directly 50 per cent. of their "surplus revenue" (in the Marxian sense) during the first year. The corresponding mathematical scheme as presented by Serge Bulgakov looks as follows:

First year

$$\begin{array}{lcl} \text{I} & 4,000 + & 1,000 + (500 + 500) = 6,000 \\ & c_1 & v_1 s_1 \\ \text{II} & 1,500 c_2 + 375 v_2 + 375 s_2 & = 2,250 \end{array}$$

Second year

$$\begin{array}{lcl} \text{I} & (4,000 + 400) c_1 + (1,000 + 100) v_1 + 500 s_1 & = 6,000 \\ \text{II} & (1,500 + 100) c_2 + (375 + 25) v_2 + 250 s_2 & = 2,250 \end{array}$$

The first item of the formula (II) pertaining to the first year is $1,500 c_2$ because the capitalists producing the factors of production use only 50 per cent. of their surplus for buying consumption goods. Since Marx assumes that wages and surplus equal one-half of constant capital in an even way, their amount in the second formula concerning the first year will be $375 v_2$ plus $375 s_2$. Of course the assumption that the "organic composition" of capital (that is relationship between C and V) is not bigger in the formula I is not realistic. The dynamic formulae of the second year keep the above-mentioned proportionality so that $500 s_1$ saved in the first year are invested in the production of the factors in such a way that the investment in respect to c_1 is four times as big as that with regard to v_1 . In formula II, pertaining to the second year c_2 equals as usual v , plus, s , which is spent on consumption. Since the production of consumers' goods likewise

expands, it must employ a larger number of workers so that v_2 will increase by one-fourth of the increase in c_2 which equalled 100. Any increase in the production of consumer's goods which takes place in the second year is according to Marx an internal movement and thus can be only at the expense of s_2 that will decline correspondingly to 250.

The dynamic scheme of Marx pertaining to the so-called "extended reproduction" is presented by us in a somewhat simplified form. It would become more complicated if the two following assumptions were made :

1. That also the capitalists producing the consumers' goods are saving and investing. In addition, the same could be assumed with regard to the capitalists who produce the factors of production in the second year.

2. That luxury industries are separated from the wage goods' industries.

The omission of these few refining assumptions does not, however, make the teaching of Marx at least in opinion of his strict followers less understandable. His mathematical schemes concerning total outlay try to confirm Say's proposition that there will be no overproduction at all if the total production is not 'ill-assorted'. Yet, Marx refines Say's approach and draws some additional conclusions. The main propositions derived from his mathematical schemes pertaining to a pure capitalist economy can be summed up as follows :

1. If the production of producers' goods is well adjusted to that of the consumers' goods, there will be neither a partial nor a general overproduction. In particular, under dynamic conditions, V , plus a part of S , which is spent on consumption must equal c_2 while c_2 and v_2 have to increase at the expense of s_2 .

2. Capitalism is threatened not so much by an eventual partial overproduction provoking a general crisis as by a continuous growth of constant capital that causes a higher organic composition of total capital and is accompanied by a permanent decrease in "surplus" value which will someday necessarily destroy the private initiative. This idea of Marx illustrated by his simplified dynamic mathematical scheme is chiefly based on the assumption that the saved portion of the surplus is in a very large measure invested in the growing production of the fixed real capital goods which takes place in the next year. Just this development confirms, according to Marx, "the basis contradiction of capitalism", namely the fact that the social character of production is confronted by the private capitalist character of appropriation.

The assumption of Marx that capitalism has an infinite expansibility inside of the given country so long as the correct proportions between the individual branches of total production are observed and the "more-value" continues to exist, induced him to say simultaneously that the capitalist shares with the miser the passion for an infinite and thus virtually aimless accumulation of wealth. This train of ideas impressed two outstanding Russian economists Bulgakov and Tugan-Baranovsky while especially the latter developed a rather extreme and risky theory of total outlay which can be reduced to the four following propositions :

1. The main aim of the capitalistic national economy is to care not for final consumption but for the accumulation of capital so that the constant growth of real capital is an end in itself. In other words, capitalism is run by the capitalists for themselves and from their viewpoint there is never any shortage of the demand for the producers' goods which they call into being.

2. If there is a proportional distribution of total production and simultaneously the producing of means of production is largely self-contained, no decline in social consumption is capable of producing a superfluous product. Should a particular good be overproduced, the reason for such a development will be a wrong allocation of the factors of production caused by investment of some newly created floating capital funds especially of those which are derived from the previously immobilized replacement funds.

3. The industries producing factors of production (including mining and industrial agriculture) are in principle self-contained and thus do not depend upon the aggregate effective demand for the final consumption goods. This is the main reason why the specific weight of the production of productive agents constantly grows. So, coal is produced for the productive consumption of the iron industry, iron is produced because it is needed by the coal industry and by the production of machine tools which in their turn are necessary for the production of machines that will be used in the industry producing oil pipes, etc. Tugan went even so far as to stress that iron and coal are in part produced because they serve the purpose of further production of iron and coal.

4. The only limit to production of real capital goods is set by the given quantity of natural resources which are at the disposal of the given national economy. Otherwise, the development of the productive forces would be unlimited.

Tugan-Baranovsky maintains that capitalists someday might run the national economy with a small number of con-

sumers by using a handful of workers who will operate a very large and highly mechanized real capital for the producing of self-feeding means of production. In general, there is no chance, according to him, to prevent the capitalists from substituting the production of coal and lubricating oil for the production of food for men and horses as long as such substitution is advantageous and the production of real capital goods remains in principle self-contained. Consequently, Tugan shares the idea of Marx that transformation of capitalism into socialism is but a question of time although his interpretation of this development is rather such that he deserves to be considered as a precursor of the modern technocratic school of thought. There is still another difference between the theory of total outlay as presented by Marx and that of Tugan-Baranovsky, namely, Marx meant exclusively a vertical maladjustment of the total production while Tugan believes that overproduction will be avoided not only if the production of producers' goods is adjusted to the production of consumer's goods but also if it is balanced within its own field, that is, is largely self-contained.

Tugan's theory of total outlay is rather extreme because it openly denies any major interdependence of production and final consumption. It is, of course, true that industries producing means of production in part serve each other and even serve themselves (so coal is consumed by the coal industry); yet, on the other hand, a cotton loom which is not scrap must necessarily produce some cotton goods. The more such machines are accumulated the more they produce the respective goods of final consumption. Should the aggregate effective demand for cotton goods be insufficient, the machines will depreciate and the capitalist who hoped in this way to increase his formal capital will see it reduced. Thus, will ensue the dangerous process of "de-capitalization" (to use Bouniatian's terminology) which will be perceived as a crisis. This fact is realized even by some orthodox Marxian critics of Tugan like Bucharin, Karl Kautsky, A. Leontiev, etc. who insist that Marx himself did not deny that production ultimately is always meant for direct human consumption. Some other Marxian critics of Tugan and Bulgakov like Rosa Luxemburg and Fritz Sternberg went even so far as to repudiate the contention of Karl Marx that production and consumption could eventually be equalized under capitalistic conditions. According to them, any advanced capitalistic national economy which is devoid of all remnants of simple commodity production will suffocate unless it finds an additional market for its goods outside of its domain in non-capitalistic nations and strata of population. In other words, they assumed that imperialism is inherent in the so called "pure capitalism", that is, a capitalist society, consisting only of capitalists and

workers without any "non-capitalist mass" in the form of small producers.

Fritz Sternberg tried to prove mathematically that if the capitalists who produce consumption goods have a lower "organic composition" of their capital but the same "rate of accumulation" as the producers of the factors of production, there will be necessarily an overproduction of the finished products which will lead to a fatal crisis unless the capitalists find an "imperialistic outlet."

This rather non-Marxian proposition (at least from a theoretical viewpoint) is still vigorously advocated by the Soviet economists even if in a somewhat different way. On the other hand, some non-Marxian economists, like John B. Clark, Frank Knight and William Fellner seem to sympathize with the main idea of Tugan's theory of total outlay, although they never went much beyond the bare statement of principle—which is correctly stressed by Paul Sweezy. So, for instance, Professor Knight said once: "It is a purely technological matter and there is no reason why the entire productive capacity of society should not be used to construct new capital goods if the population should decide to save all its income". In our opinion, such a statement is unacceptable since final consumption is a logical category so that at the most the actual social limit of consumption could be violated. The production of consumption goods, however, will remain under all conditions a very important portion of the total production. Fellner does not go so far as Knight, in assuming that "investment for further investment" (to use his terminology) can be divorced from the subsequent consumption. Yet, he is in principle influenced by Tugan although according to him an excessive production of productive agents may create a very high degree of uncertainty because the system will cease to function satisfactorily whenever the willingness to invest for further investment will have to decline as a result of overproduction.

On the whole, we must admit that Marx and Tugan Baranovsky made a valuable contribution by drawing our attention to the fact that the modern production of the real capital goods represents a very large market which is partly independent of the industries producing consumers' goods. This, however, was shown in a more correct way by Marx than by Tugan.

In addition Marx paid particular attention to the industries producing luxuries since he assumed that such industries absorb a portion of "surplus" and thus enlarge the domestic market. He, however, never accepted the so-called over-saving theory developed especially by Malthus and Lord Lauderdale. These British economists maintained that there will be no discrepancy between production and final consumption within a national

economy if capitalists curtail their saving and thus increase consumption of luxuries. Malthus meant rather landed nobility who was during his time still an important bearer of purchasing power. Lauderdale declared that there is fortunately a considerable prodigality which at least to a certain extent counterbalances the parsimony of some rich people. These views represent, however, another exaggeration because the increasing demand for luxuries never will be a great generator of spending power. The bigger the income of an individual becomes the greater portion of it he usually saves since his own consumption is physically and perhaps even psychologically restricted. Besides, his ambition to have a bigger accumulated formal capital (that is, a potential investing power) usually grows.

The oversaving theory was conceived by its authors rather as an underconsumption theory because it was assumed that the well-to-do people in a certain sense "underconsume" and thus decrease the otherwise available aggregate spending power. In our time, however, underconsumption theory is rather demand deficiency theory, to use Bernard Dempsey's terminology, since it usually means that the broad masses of the population are unable to develop a sufficient effective demand for the final consumption goods so that their "underconsumption" may lead to the depreciation of quite a few means of production which are indirectly consumed and thus ultimately depend upon aggregate demand for consumers' goods. We shall discuss here only the approach of Sismondi who can be considered as the main progenitor of any modern theory of underconsumption. His teaching can be reduced to the following propositions :

1. Consumption does not depend ultimately upon production (as is assumed by the classical economists) but on income.

2. Inequality in distribution of national income deprives the broad masses of population of adequate spending power. More than that, when under capitalism production grows the average man becomes poorer.

3. There is a general overproduction because the current social product should be bought by the total income of the previous year. This, however, does not happen since the capitalists over-invest while the broad masses are unable on account of their meagre purchasing power to absorb the whole amount of the produced consumption goods which should be sold at 'lucrative prices.'

Sismondi's views exercised a great influence in our time on J.A. Hobson who in particular insists that the capitalists will have a bigger market for their goods not only if they directly

raise real wages but also if they invest the greatest portion of their savings in the wage goods' industries (just as was recommended by Sismondi) because such a policy will cheapen the means of subsistence and thus will in the long run cause a further increase in the spending power of a large amount of people. Sismondi's approach is peculiar inasmuch as it contends that the wages received in the previous year as well as the expenditures of the landlords and capitalists likewise derived from the incomes obtained in the preceding year are not big enough to purchase the whole current production of consumers' goods. He wanted to prove in this way that the current social product should not surpass the sum of individual incomes obtained in the preceding year. He made, however, a serious omission by disregarding the fact that a considerable portion of the current social product is composed of the producers' goods so that the capitalists do not acquire only the goods of final consumption, in particular, luxuries.

Sismondi's approach becomes more interesting in our time because it has a certain resemblance with that of Major Douglas which we have defined as the theory of absolute discrepancy between total costs and total purchasing power in circulation. There are, however, some essential differences in their views namely :

1. Douglas assumes that the current and not the preceding total income has to absorb the current total outlay. It is interesting to note that in this respect D.H. Robertson is closer to Sismondi. According to Robertson the present consumption—plus—investment has for its source the income of the preceding period.

2. Sismondi believed that the capitalists themselves can remedy the situation by agreeing to increase real wages and to give priority to the industries producing consumption goods. On the other hand, Douglas expects the state to fill up the gap by distributing additional spending and thus consuming power created by the private banks under supervision and at the request of the government. State interference is especially necessary, according to him, because private credit institutions tend to carry out a deflationary policy. In this case, Major Douglas is rather close to Cassel who believes that the end of the prosperity period is brought about by the fact that the supply of capital disposal does not keep pace with the lengthening of the period of gestation. Yet, Cassel considers as the main cause of crisis not the unwillingness of the banks to create loanable funds but rather the under-supply of savings.

3. Douglas uses a more elaborate concept of total outlay than Sismondi who cared in conformity with the classical tradition only for wages, rent of land, interest and profit.

According to Major Douglas only the amount spent on wages, salaries, dividends, etc. increases the purchasing power of the consumers. Any other kind of costs, in particular, expenditures made on productively consumed materials and bank charges do not give rise to spending power in the given period. Yet, they are constituents of the market price of the given good whereby this price is raised still more by the writing off depreciation of real capital—which has no counterpart in the total remuneration received by the consumers. The main and fatal result of such a development is (according to Douglas) a disequilibrium between the total amount of prices and the total amount of incomes. In other words, there is no sufficient aggregate spending power to buy the total amount of goods produced in a given period. Thus, a general overproduction is inherent in the present method of calculating the market values.

Should we apply the terminology of Marx to the main contention of Douglas we could say that according to him a general overproduction cannot be avoided because V plus S is unable to purchase V plus S plus C plus X . By X we understand some items of the total costs which were not stressed by Marx, like bank charges (especially in connection with created investing power), taxes, excessive amortization, etc. We must admit that there is a kernel of truth in the theory of total outlay developed by Major Douglas and that it even would be correct if he spoke not of an absolute but of a relative discrepancy between total outlay in a broader sense which contains items that are not factor payments and total spending power. The gap between them is caused by the time lag. In other words, if Say was wrong by assuming that sale necessarily means purchase, Douglas errs in that quite a few costs connected with a sale like expenditures on raw materials, never generate in the given period an expenditure connected with revenue caused by them (here the revenue of the seller of raw materials). As a matter of fact, the total purchasing power in circulation would have absorbed the total outlay in a broader sense and thus would have purchased the entire current social product if every income were immediately transformed into spending power instead of being immobilized at least during the given period.

The difference between Douglas and us depends ultimately upon the fact that according to him aggregate spending power is under present capitalistic conditions necessarily insufficient to buy the entire annual social product while according to us the necessary purchasing power is in principle available but proves often to be insufficient because it is not fully used during the given period. This is typical of our modern dynamic capitalistic economy during a slump when its deflationary tendency is not offset by an injection of purchasing power that would be duly

actualized. In other words, the theory of a relative discrepancy between total outlay and total spending power does not assume that such a disequilibrium is given under capitalism at any time or that it is the main cause of a periodic recession. It rather only contends that immobilization of a portion of the individual money incomes (including wages) during the given period which becomes quite conspicuous our time creates a serious deflationary tendency and in the case of a slump intensifies it.

It seems like a paradox but the economist who created this last, and in our opinion correct, version of the theory of total outlay was again Karl Marx. Let us examine his two following propositions :

1. "C" partly consists of a replacement fund pertaining to long-lived equipment which is allowed to accumulate over a period of years and is then expended in a single burst when the equipment requires renewal. Thus, a huge amortization fund can be immobilized even as a hoard, for instance, in terms of precious metals when there is a danger of inflation. This idea of Marx was used by Tugan-Baranovsky in order to prove that just this "single—burst—funds" were the main reason for a disproportionality between the various branches of the capitalistic national economy and thus for an eventual general overproduction. Also, Arthur Spiethoff, Harold Moulton and D. McCord Wright pay particular attention to the implications caused by the recurrent outbursts of investment activity connected with the reproduction of real capital or with its increase in connection with acceleration principle.

2. Equilibrium will not be disturbed only if the age—composition of the stock of equipment is such that renewals are required at a steady rate and for this reason become periodic. If the renewals are excessive the production of the factors assumes such a proportion that v_1 plus s_1 exceeds c_2 . This implies a disproportionality. After the ensuing increase in the production of consumption goods, v_2 will have to rise so that a temporary boom and its repercussions could not be avoided. In other words, Marx wanted to say that there will be no disequilibrium between total outlay and social product if the replacement of real capital is carried out regularly and at a steady rate. On the other hand, any immobilization of replacement funds and their discharging in a single burst will provoke a disequilibrium in terms of cyclical fluctuations.

It is evident that Marx paid attention to a very essential phenomenon which Major Douglas just fails to notice. Yet, Marx did not elaborate the theory of a relative or conditional disequilibrium between total outlay and total spending power because he concentrated exclusively on the eventual immobilization of replacement funds which interested him more as a factor

contributing to business fluctuations. The same is also true of Tugan-Baranovsky and his followers. On the other hand, the contemporary version of the theory of a relative disequilibrium between total outlay in a broader sense and total spending power assumes that there will be at least no major disequilibrium between these two essential phenomena if all items of the national money income in the narrower sense that is, of the sum of individual money incomes, are during a given period transformed into spending power. Should we wish to express this idea more in conformity with the theory of total outlay we ought to formulate it rather as follows : there will be no mentionable disequilibrium between total outlay in a broader sense and total spending power if all items of the given market prices even amortization, bank charges, taxes, etc. are in the given period actualized as spending power. Thus, this approach attributes a special significance to hoarding and to a time lag between sale and purchase or income and expenditure. So, for instance, Gordon Hayes whose views are typical of such an approach correctly points out that the hoarded funds usually constitute a "deflation gap", that is, in principle, cause overproduction because a part of the given incomes does not materialize as spending power in the given period of time. We may likewise agree with him that there can be a repercussion of a similar kind if quite a few persons delay to write checks against their bank balances derived from current income. On the other hand, we cannot agree with James Estey who in his impressive work on business cycles minimizes the immobilization factor by assuming that each individual hoard is counterbalanced by a simultaneous dishoarding and rejects the idea that expenditures on replacements are made very unevenly from the standpoint of the national economy as a whole. Roughly speaking, Professor Estey gives rather a kinetic scheme which does not fit our present purely dynamic reality.

The problem of a disequilibrium between total outlay in a broader sense and total spending power becomes more serious in our time at least for the following few reasons :

1. Constant increase in mechanization connected with a rather frequent "institutional depletion" of many costly real capital goods, raises replacement funds and provokes a tendency to write off depreciation in an excessive way. Such funds never represent purchasing power in the hands of an average man and tend, as we know, to be invested by leaps and bounds.

2. Increasing acquisitive creation of investing power on behalf of private banks makes bank charges more frequent. This constituent of a price tends likewise to be immobilized for a while or gives rise to investment abroad. Also, the actual policy of the big corporations to build up large reserve funds at the expense of dividend contributes to the reduction of total spending power

in the given period of time. Besides, taxes which represent now-a-days the biggest single item of national income are apt to immobilization during the given period of time—which is correctly stressed by Bernard Dempsey.

3. The political insecurity of our time favours hoarding of all kinds.

A discrepancy between total outlay in a broader sense and total spending power is stimulated by the fact that saving a portion of current incomes and their investment are at present very frequently originated not with identical groups of individuals so that saving does not necessarily imply the actualization of a purchasing power within the given country in the given period of time. This fact is especially stressed by Gunnar Myrdal. On the other hand, an eventual dishoarding or an institutional increase of money supply will decrease the above-mentioned discrepancy by counterbalancing to a certain extent a partial immobilization of current total outlay. This idea is advocated especially by Bertrand Nogaro and Lester Chandler. In particular Nogaro correctly says that if there were no dishoarding many expensive durable consumption goods, as, for instance, a house or an automobile, could not be bought in the given period since the current income of the majority of buyers is too small for such a purpose.

It is necessary to note that the outlay to the factors is either direct, like, wages paid by a factory, or indirect like revenue derived from an investment which enables another economic subject to make a direct outlay. An expenditure made by a factory on buying some raw materials is an indirect outlay from the standpoint of the national economy as a whole, because it enables the seller and ultimately the producer of the given productive agent to make some necessary direct outlays. Disregard of this fact is the main mistake of Major Douglas. Only in the case of a loss is there an outlay which even in the long run is not an income to somebody. There is no doubt that under rather abnormal conditions an expenditure on materials may eventually fail to act as an indirect outlay with regard to the given period; yet, this will be caused usually by a certain time lag between sale and purchase. In general, the tempo at which the actualization of an income as spending power is made represents a vital problem from the standpoint of the national economy as a whole. The quicker the tempo, the weaker will be the process of immobilization.

We repeat once more that a price reflects a certain composite outlay which is normally expected to absorb in its entirety a portion of aggregate spending power. One can express this idea also by saying that the market price of a product constituted by the genuine total costs plus some eventual imaginary costs

(for example, an excessive ammortization), plus an eventual surplus revenue should normally in its totality and within the given period of time give rise to spending power. This will be the case if all goods are sold and all cost items plus eventual surplus revenue do not serve as a source of hoarding. If on the contrary quite a few items of the given costs conceived as a composite outlay are immobilized, the respective price is rather "inactive" from the standpoint of the national real income since it partly reflects some "sterile" outlays.

Lord Keynes, Alvin Hansen, and Sir William Beveridge espouse in the last analysis the theory of a relative discrepancy between total outlay and total spending power since they attribute great importance to the fact that hoarding reduces the transformation of private outlays into spending power. They develop, however, their theory of total outlay in a rather impure form by paying special attention to the problem of full employment. Their further characteristic is that they stress the importance of governmental outlays especially of those which are connected with public works and developmental projects. According to them, the state can and must fill in with its expenditures the gap between private outlays and that total spending power which is necessary for absorbing the entire social product that would arise under full employment. Such gap is in their opinion grave in economically advanced countries that suffer from a "financial anemia" (to use Leonard Ayres' term). They suggest that the government increase and bolster aggregate effective demand by means of "pump priming" that is, by injecting a certain additional amount of spending power which can be obtained through borrowing or credit creation.

In addition, it is assumed in conformity with the theory of the multiplier that each dollar of public spending will add several dollars to the national income. Practically, the investment multiplier is the ratio of an increase of income to a given increase in new investment which expresses the actual "investment elasticity" of the given national income at the given time and depends in a large measure upon the given propensity to consume. If this propensity is 50%, the injection of one billion dollars raises the total purchasing power by two billion dollars since the formula of the multiplier reads as follows : $\frac{1}{1-R}$ whereby R means the actual propensity to consume. Thus, the one billion dollars of additional investment will bring about a one billion dollar net increase in income. It is more correct to substitute for the propensity to consume the general propensity to spend which will be put into juxtaposition with the leakages (e. g. Hoarding). Yet, the leakages which may reduce the multiplying force of new expenditures, we do not here

investigate. One can, however, chose the opposite course—as it is done for instance by Fritz Machlup and Stephen Enke who consider multiplier as the reciprocal of all the combined leakages, like hoarding, imports, etc. In this case rise in money income will be determined by periodic injection (in \$) divided by leakage in each period (as a decimal) or if the given amount of money is injected into the national economy a single time it will be equal to the reciprocal of all the combined leakages.¹

The entire Keynesian train of ideas encounters one difficulty which is duly stressed by Keynes himself. Namely, if the increased demand for consumption that will be caused by a new investment is not foreseen, this investment will create new income for which no new consumption goods have been produced. In these circumstances, as Keynes points out, the new demand will be met partly by the depletion of stocks and partly postponed because of a resistance to higher prices and also because the type of goods demanded is not available. To the extent that consumption is postponed, the marginal propensity to consume and the multiplier will fall temporarily below their normal size. Later, when the goods become available the marginal propensity to consume may rise above its normal level and eventually will return to its normal level. Henry Villard is rather right when he says that the Keynesian theory of the multiplier reminds us in a sense of the quantity theory of money which maintains that when there is an increase in money, income will rise by an amount which is income velocity times the increase in money. The multiplier approach in its turn implies that when there is an increment of aggregate investment, income will increase by an amount which is the multiplier times the increment of investment.

Summing up, we can say that in a sense the “Keynesian” theory of total outlay has much in common with our views although it has another starting point since it appears as a constituent of employment analysis and is rather authoritarian in tone because it expects the state through government expenditures to counterbalance an insufficient development of the aggregate spending power caused ultimately by hoarding conceived as immobilization process. It is interesting to note that Keynesian approach implies that the state intervention saves mature capitalism which is unable to rely upon automatic adjustments. In other words, pump priming carried out by the Government destroys the given underemployment equilibrium which was created institutionally by some “oligopolistic obstructions” (wage and price rigidities) and thus leads national economy toward a full employment equilibrium.

1. It would be more correct to connect the multiplier not with investment but with the total injected purchasing power. In the case of dejection one should consider the propensity to contract versus some leakages like dishoarding.

CHAPTER XXI

SOCIO-ECONOMIC BALANCE SHEET

The socio-economic balance sheet is an analytical device that enables us to see the national economy as a unit. Thus far a genuine balance sheet has been developed only by business economics where it is regarded as a tool used by a firm for determining either its net revenue in a given period of time, or the structure of its assets and liabilities which shows the actual status of its real wealth and formal capital. It is correctly assumed that a balance sheet can serve as a good tool of comparison if it is developed in exactly the same way over a longer period of time, that is, at least during several consecutive years.

At present, we are beginning to realize that a real balance sheet could also be used by social economics in particular by economic theory as an instrument of considerable value. Perhaps, the main reason for such a development is the fact that a good many economists have begun to stress the necessity of making a distinction between the theoretical model of a loose money exchange economy which is largely reduced to the functioning of a self-regulating price mechanism and a genuine national economy conceived as a socio-economic superstructure of a complex nature. The first influential economist who rationally came to such a conclusion was Frederick List. In our time, this position is advocated with definite insistence by Sombart, Spann, Ammon and Lucien Brocard. As soon as we recognize that the national economy should be considered as a unit (that is, a whole) we are almost forced to develop a socio-economic balance sheet which would enable us to determine at least roughly the following vital data :

1. The actual development of the country's productive forces.
2. The liquidity of the national material wealth.
3. The degree in which foreign capital participates in the national assets.
4. The degree in which the national economy experiences technological or structural unemployment of its resources.

Such a balance sheet could also show the changes in the country's real wealth which is the ultimate source of the social product, provided that we follow the practice of accounting and compare the successive balance sheets developed regularly according to a fixed scheme.

The first attempt to use a balance sheet method for measuring the success of the entire national economy was made by the later Mercantilists and supported by John Locke. They assumed that the national economy is a going business concern which can have a surplus revenue in its commercial relations with foreign countries. An active balance of trade pertaining almost exclusively to the visible material goods was supposed to show roughly the prosperity of the given national economy by approximately appraising its success. This approach was contested by Adam Smith and completely rejected by Goshen in 1863 when it was firmly realized that an unfavourable balance of trade is irrelevant if the balance of payments or rather the balance of international economic relations proves to be favourable. This later may contain in addition to the balance of trade quite a few invisible items, like the services rendered by shipping, banking, insurance, etc. The concept of a favorable balance of payments is, however, ambiguous because such an account always balances. Consequently, in this case it is supposed that the given country is in a prosperous condition if the excess of exports over imports is counterbalanced by the import of gold or by an increase in the home owned foreign balances. Besides, the idea that the balance of international payments can really determine the "success" (or welfare) of the national economy is in principle erroneous because such an account not only does not sufficiently show the actualization of the country's productive forces but even does not pertain to the entire usable material wealth of the nation. It can only show in what degree the international economic relations of the given country comprising the movement of material goods, services, and rights are developed and prove to be favourable. It may also give a certain insight into the actual financial status of the given nation. Yet up to the present some economists who believe that the rate of exchange is entirely determined by the self-restoring balance of payments maintain that this rate and ultimately the balance of payments must be considered as instrumental devices measuring the prosperous development of the respective national economy. Were we to use the terminology of Andrew Liesse, we could say that the rate of exchange is supposed to be in this case an "index unique" which acts as a sort of thermometer. An ordinary thermometer shows, for instance, that the air in the given room is warm and consequently used without, however, indicating the exact degree in which it was consumed. Just the same is assumed also in respect to the rate of exchange which is supposed to act as a certain "prosperity thermometer" although it is believed that this rate is in its turn determined by the current balance of payments.

A regular balance of payments ultimately compares the funds received from the foreigners with the payments made to

them while making this comparison from the standpoint of supply of and demand for foreign exchange. This implies that a loan contracted abroad which increases the supply of foreign exchange and thus the available purchasing power is considered as an asset, that is, as a positive phenomenon, although it augments the indebtedness of the given country and is rather negative if the borrowed funds are not used for buying essential goods or making a productive investment at home. For this reason, some German economists, in particular, Frederick Schmidt and Professor Meerwarth prefer to develop an "indebtedness balance sheet" (*Forderungsbilanz*) which shows the actual relation between claims and debts of the given country while taking into account the degree of their maturity. Yet, this is not a solution to the problem because such a balance sheet could only show how far the given country is indebted, that is, what is its actual financial status from the standpoint of the world economy. Furthermore, it might eventually give some additional information about the virtual mobility of the country's gold and foreign exchange reserves, that is, how far they are "ear-marked" to the benefit of some other nations. On the other hand, Schmidt's account of indebtedness is rather an unsatisfactory prosperity index for the following reasons :

1. It does not show the structure of the country's real wealth and the type of claims laid against its social product.
2. It does not give any information about how far the country's total consumption depends upon the home produced material goods. The same is true also of the actual treatment of imported commodities.
3. It does not disclose whether the given national economy was successful in its efforts to increase its real wealth, that is, to achieve a real gain. Even a heavily indebted country can eventually develop its productive forces by using a foreign loan.

We can say that any more or less recent attempt to consider the balance of payments, the balance of indebtedness or simply the rates of exchange as a prosperity thermometer is a step backward because even Adam Smith expressed the right idea long neglected that the balance sheet of the foreign economic relations cannot serve as a prosperity index unless it is supplemented by an "interior balance sheet" which he defined as the "annual balance of production and consumption". According to him, a national economy is in principle prosperous if its annual production surpasses the current consumption of any kind because only in such a case its real capital which serves as a productive wage fund can grow and thus will enable the nation's productive labor to raise still more the material real wealth of the given country. Adam Smith went even so far as to stress correctly that a nation

should not be afraid of having a constantly negative balance of trade if its interior balance sheet is continuously positive. He did not, however, elaborate clearly such an approach so that his idea of an internal balance sheet was practically neglected until 1895 when the Austrian economist Joseph Gruntzel returned to it by developing his remarkable compound "economic balance sheet" which was composed of an exterior and an interior section. Gruntzel's external balance sheet is not original since it represents the usual balance of payments in a rather simplified form which omits some invisible items. On the other hand, his internal balance sheet is a distinct contribution to the original scheme developed by Adam Smith. It looks as follows :

INTERNAL BALANCE SHEET

(expressed in terms of money)

"ASSETS" (Gain)

1. Value of extracted raw materials.
2. Increase in the value of raw products by means of manufacturing, commerce, transportation, etc.

Total value of production from the consumer's standpoint.

"LIABILITIES" (Loss)

1. Final home consumption of any kind.
2. Natural losses and waste caused by the Government.
3. Positive balance as an excess of production over consumption.

Gruntzel stressed, as did Adam Smith whom in general he followed, that a positive internal balance sheet renders a negative account of foreign economic relations harmless. A new version of this approach was introduced in 1903 by Henry Nicklisch who later became in Germany a great authority on business economics. Nicklisch made a distinct contribution to the idea of the internal balance sheet of an advanced national economy because according to him its "assets" must contain the country's real capital present at the beginning of the given year in terms of money. By such an item, he understands the country's initial stock of all material productive goods. In general, Nicklisch makes the idea of Adam Smith and Gruntzel clearer that a positive total economic balance sheet composed of two autonomous but in principle combined accounts shows the actual increase in the country's material real wealth and thus measures (at least roughly) its economic welfare. In other words, neither subordinate balance sheet but only their combination can serve as an adequate socio-economic prosperity index. The total balance sheet as developed by Nicklisch can be sketched as follows :

I. *Internal balance sheet in the given period*
(in \$1,000)

"ASSETS"		"LIABILITIES"	
Initial real capital of the country and some other stocks	100,000	Productive consumption	40,000
Result of production in any sense	90,000	Final consumption and losses	30,000
		Positive balance (final stock)	120,000

II. *Condensed external balance-sheet in the given period (in \$ 1,000)*

Imports of any kind	40,000	Exports of any kind	20,000
Positive balance, that is an "increase in the stock of material goods"—\$20,000			
...

Final result of the total economic balance sheet : (in \$1,000)
 $\$120,000 + \$20,000 = \$140,000$ (*Final stock of material goods at the end of the given period*).

If the non-consumed initial stock, let us say of \$60,000,000 is deducted, the actual increase in the stock during the given period will amount to 80 million dollars. Yet, 20 million dollars of them are not domestic.

The scheme of Nicklisch will become clearer if it is reconstructed as follows:

Entry (in \$1,000)		Sortie (in \$1,000)	
Non-consumed portion of the initial real capital and of some other initial stocks ...	60,000	Productive consumption ...	40,000
Productively consumed portion of the initial real capital ...	40,000	Final consumption and losses ...	30,000
Result of production of all kinds ...	90,000	Exports of any kind ...	20,000
Imports of any kind ...	40,000	Final stock of material goods ...	140,000
Total ...	230,000	Total ...	230,000

Yet, from the final stock of 140 million dollars should be deducted 60 million dollars which were in the beginning of the period plus 20 million dollars practically "borrowed" from the foreign countries so that the real increase in the stock of material goods possessed by the nation and considered by Nicklisch as the "prosperity index" would amount to 60 million dollars.

Although this scheme of Nicklisch has merit it is liable to criticism for the following reasons :

1. It takes into account only the material wealth of the country which can be easily appraised in terms of money.

2. The excess of production over consumption cannot be considered as a positive phenomenon from the standpoint of the national economy as a whole if it is in reality artificial, that is, is caused by an under-consumption. This criticism hits seriously the entire Smithian approach because it shows that a positive "economic balance sheet" does not necessarily imply that the given country is prosperous.

3. It is not irrelevant for the given nation if it continuously loses its gold and foreign currency reserves, that is, the most liquid merchandise in international trade unless this country is already self-sufficient. The loss of exchange reserves cannot be normally counterbalanced by a positive internal balance sheet.

In spite of this criticism, we have to admit that the newly improved economic balance sheet of Adam Smith is by far a better *index unique* in the sense of a prosperity thermometer than a balance of payments or a balance of indebtedness when they are taken as isolated phenomena. In particular, the total "economic balance sheet" of Henry Nicklisch is quite impressive as an instrumental device because it appraises even if only halfway the increase in the country's material wealth. We can, however, still make the two following critical observations :

1. Any balance sheet developed by Adam Smith and his followers is virtually not a proper balance sheet at all but a sort of account. This is true also of the prosperity index offered by Nicklisch which reminds us of a closing account of merchandise for a factory. Namely, such an account considers the initial stock of material goods of any kind plus produced and acquired material goods minus merchandise sold and commodities lost. The result will be the factory's final stock at the end of the given period. There will be, however, a distinct difference between the two cases under discussion because a firm can by no means treat such an account as its prosperity index and

will develop it only to fix its inventory at the end of the given year. Besides, productively consumed goods which pertain to the unsold part of the merchandise will not be considered on the right side of the above-mentioned private account.

2. It is rather controversial to assume that an excess of imports over exports is necessarily a negative phenomenon because some imported material goods can contribute to the development of the productive forces of the given country. On the other hand, one should not entirely discount the negative alternative which was the practical meaning of Gruntzel and Nicklisch namely that an excess of imports over exports may eventually increase the degree of denationalization of the country's material wealth, or at least the indebtedness of the given nation.

The socio-economic account of Henry Nicklisch remained somewhat in oblivion for almost twenty years, that is, until it was accepted and improved by some economists of the Soviet Union who decided to use it to the benefit of their planned economy. These economists chose, however, a much better name for their socio-economic account, defining it as a "balance sheet relating to the turnover of the social product". Moreover they did not pretend that their "balance sheet" gave a deep insight into the country's material wealth but rather stressed their interest in national income which was integrated into the above-mentioned account although this was done in a very obscure way.

The first Soviet socio-economic balance sheet was developed shortly after the Communist revolution by P. Popov, W. Seilinger, and B. Guchman. Somewhat later this account was improved by the Soviet Central Statistical Bureau which started to publish it systematically either with regard to the entire national economy of Soviet Russia or with regard to its separate branches while agriculture was particularly favoured. We shall not discuss here the original version of the Soviet socio-economic account which was in principle fallacious inasmuch as it assumed that the result (or rather balance) showed "the accumulation of material values" during the given period. In reality, however, the balance of the above mentioned account represented the final material wealth. Only when the initial material real wealth was deducted from the balance was the result virtually an increase in the country's material wealth and for this reason could be interpreted as a certain prosperity index. This mistake was, however, removed by the central Statistical Bureau so that the improved Soviet Socio-economic account assumed the following form :

THE ANNUAL BALANCE SHEET OF THE NATIONAL ECONOMY OF THE SOVIET UNION

ENTRY

DISTRIBUTION (or Sortie)

I Real Wealth at the beginning of the year.

1. Stocks of the *producers* (including agriculture and building industry) composed of the factors of production and of the finished products (including merchandise).

2. Stocks in the *channels* of the exchange (commerce, transportation) composed of producers' goods and merchandise. The stocks of the railroads shops are taken into account.

3. Durable *consumption* goods possessed by the producers (including agriculturists) composed of buildings, chattels, cattle, etc.

4. Durable *consumption* goods possessed by the consumers (i.e., by the officials, army urban population, etc.)

(Total material wealth which can be appraised)

II *Production* during the given period subdivided with regard to the different kinds of producers.

III *Imports* of visible and invisible goods in the given period.

IV Increase in value due to exchange, namely :

- (a) transportation
- (b) commerce
- (c) indirect taxation
- (d) import duties.

1. *Productive* consumption subdivided with regard to the different branches of the national economy.

2. *Final* consumption on behalf of the state and the population. Here *personal* unproductive consumption is meant.

3. Exports during the given period pertaining to the visible and invisible goods.

4. Losses.

Balance : *Final* real wealth at the end of the given year. The deduction of the total initial real wealth from this balance gives the increase in the country's real wealth during the given period.

Similar balance sheets were set up for the major branches of the Soviet national economy. It was correctly assumed that an account of this kind does not measure exactly the country's material wealth but serves only as a prosperity index if it is developed each year in the same manner, while money in which its items are appraised was constantly expressed in terms of a fixed money unit that had the purchasing power of the ruble in the "economic year" 1926/1927.

The complicated problem of valuation of separate items of the Soviet socio-economic account was solved in the following way :

1. The stocks possessed by the producers were estimated at average market price—which is against our rule, since we are accustomed to estimating them at original cost prices.

2. The stocks in the channels of exchange were estimated at original cost prices, that is, in conformity with usual "bourgeois" accounting.

3. Durable consumption goods of any kind were appraised according to the last census.

4. The goods produced and imported were estimated at rude market prices which were later corrected by taking into account any increase in value caused by the services of the state, commerce and transportation. Consequently, the above-mentioned goods were finally estimated at the so-called "consumers' prices."

5. All items contained on the "distribution side" of the account were estimated at the respective consumer's prices. From the prices of exported goods were deducted all overhead costs incurred abroad.

It is evident that the socio-economic balance sheet of Soviet Russia represents ultimately the above-discussed socio-economic account developed by Nicklisch although in a somewhat modernized form. We can subject it to the following brief criticism :

1. It does not show the movement of precious metals which is considered as a state secret. Yet, such metals represent the most liquid portion of material wealth from the standpoint of the world economy.

2. If some exported goods cancel a productively used foreign loan or pertain to a credit transaction they cannot be considered as a decrease in the country's real wealth.

3. The given account does not prove that the eventual increase in the country's real wealth did not occur to the detriment of domestic consumption. By the way, a constant violation of the social limit of consumption is typical of the Soviet economy. In addition, it is wrong when the Soviet economists say that the separate "minor" balance sheets pertaining to various branches of their national economy show the share of different social classes in the development of real wealth. They come to such a conclusion because they disregard the fact that even within the nationalized industry there are some antagonistic social groups which can hardly be considered as a single social class.

Some attempts to develop a socio-economic prosperity index were made also outside of the Soviet Union but they had nothing to do with the idea of a socio-economic balance sheet or account. It is, however, desirable to consider briefly two following cases :

1. Hermberg, a German economist suggested in 1926 that the profit of a "representative firm" be used as a socio-economic prosperity index. By a representative firm he understood partly in conformity with the teaching of Marshall "that particular sort of average firm at which we need to look in order to see how far the internal and external economies of production on a large scale have extended in the country." Hermberg practically meant the average super-marginal firm that can have eventually a rather large size. His proposition cannot be accepted by us because genuine profits are too much influenced by cyclical business fluctuations, by the shortage of goods and by pure speculation so that they never can serve as a non-controversial socio-economic prosperity index. Besides, profit is in principle a historical category. For this reason Hermberg's prosperity index could not be used for instance by the Soviet economy.

2. There is at present a tendency to consider the national money income in the narrower sense, that is, the sum of individual money incomes as a good socio-economic prosperity index. One cannot deny that such a method of measuring country's socio-economic welfare has a certain justification for the following reasons :

(a) When the gross social product measurable in money increases, the functional distribution assumes a larger scope which implies that the national money income in the above-mentioned sense also rises. In other words, the latter kind of national income reflects any increase in the country's remuneration fund expressed in terms of money.

(b) Such a prosperity index gives some information about the personal distribution by showing the actual participation of

different social classes in the given national money income. It also shows the actual degree of state interference.

Yet, in our opinion, the national money income in the strict sense cannot be considered as a satisfactory prosperity index because it does not give any insight into the country's real wealth and thus is unable to say anything concrete about the development of the productive forces, the actual degree of denationalization of the country's national assets, etc. The same is true also of the national income in terms of material goods (that is, social product) which is believed to be a good socio-economic prosperity index by some contemporary economists, like, for instance, Albert Wolfe.

There was however one attempt in the United States to develop a national balance sheet which had to serve as a socio-economic prosperity index, namely the essay of Robert Doane from the National Bureau of Economic Research. His book entitled the "Measurement of American Wealth" was published in 1933 and is a rather unsatisfactory effort although the author could have used the previous instructive works of Nicklisch and of the above-mentioned Soviet economists. Doane's balance sheet in a contracted form looks as follows :

NATIONAL BALANCE SHEET

TOTAL ASSETS

I. *Capital Assets*, subdivided in the following way:

1. *Land* including public land and the tracts of land that are possessed by the railways or by the urban residents).

2. *Buildings* (Farm, Industrial, Urban)

3. *Machinery* and Equipment (on farm, in manufacturing, in transportation).

4. *Furnishings, Chattels.*

5. *Wealth owned abroad.*

II. *Current Assets* (total), subdivided as follows:

1. *Cash in hand and Bank.*

2. *Accounts receivable.*

3. *Notes receivable.*

4. *Materials, supplies.*

TOTAL LIABILITIES

I. *Capital Liabilities*, subdivided as follows :

1. *Private Mortgage Debt*

2. *Government Debt*

II. *Current Liabilities*

1. *Accounts payable*

2. *Notes payable*

III. *Balance as Net Worth* or surplus, which, eg., in 1932 amounted in the U. S. A., to 238.8 billions of current dollars.

Such a balance sheet could be developed only by a community whose obligations due to the state or to the other communities really represent liabilities. In that case, it would be interesting to determine "the net worth" of the assets of the given community or that portion of its wealth of which it could freely dispose in case of necessity. As to the national economy itself, only those obligations are external and could be considered as "liabilities" (in the terminology of business economics) which are due to the foreign countries or at least to the foreign residents. Otherwise, the fact that a certain piece of land is mortgaged has no major significance. If the given tract of land is estimated at, for instance, \$10,000 and the mortgage debt of the owner amounts to \$5,000 it is still worth \$10,000 from the standpoint of the national assets. The only problem which arises in such a case is that of personal distribution relating to the country's material real wealth. It might be interesting to note that the land under consideration does not belong to the landowner alone but also to another investor, *e.g.*, a bank. This problem is somewhat important from the standpoint of a real socio-economic balance sheet (where liabilities show the kind of investors) but not in Doane's case when a private mortgage is supposed to diminish the "net worth" of an asset from the standpoint of the national economy as a whole. It is likewise impossible to introduce the private accounts receivable or payable. Only a payable account representing a short term loan received from a foreign creditor should be taken into consideration. In general, we can say that the national balance sheet developed by Doane contains only a few items which should be considered by a genuine socio-economic account, like, what he understands by "capital assets," plus materials and supplies. As to the "total liabilities" meant by Doane, they are simply meaningless from the standpoint of such an account.

Before we turn to the discussion of our genuine socio-economic balance sheet, inspired to some extent by the works of Manfred Berliner and Othmar Spann, it is useful to combine all former attempts to develop a socio-economic prosperity index in the following scheme composed of three stages, namely :

1. *Pure indices unique*, subdivided as follows :

- (a) Profit of the representative firm.
- (b) National income of different kinds.
- (c) Representative rates of exchange.

(d) Abundance of the rather luxurious durable consumption goods, automobiles, refrigerators, etc.

2. *Accounts*, defined as "balance sheets", namely :

(a) Balance of trade or of payments, balance of indebtedness. Such accounts are very close to a pure index unique.

(b) Economic balance sheets of two different kinds.

(1) Raw balance sheet proposed by Adam Smith and Joseph Gruntzel.

(2) Advanced balance sheet of Henry Nicklisch and as applied in Soviet Russia.

3. National balance sheet which is not an account but can pertain only to a community. We mean here the attempt of Robert Doane.

In all the above-mentioned cases, we had to do in the last analysis with a prosperity index conceived as an "index unique." Let us recall that such an index has the following characteristics :

1. It does not give an exact measurement of the analyzed phenomenon. For this reason, it takes into account and appraises only a considerable amount of the most representative items.

2. It serves as an instrumental device, like a thermometer.

3. It is a tool of comparison and therefore is based on neutral money.

In this category belongs also our own structural socio-economic balance sheet which compares *national assets* or a country's real wealth (including labour inventory and some appraisable immaterial and free goods) with *national liabilities*, that represent total claims against the above-mentioned assets. Such claims enable each participant to share in the national income (ultimately in social product) and in some rare cases in the liquid items of the country's material real wealth. Such a socio-economic balance sheet is of a distinctly structural nature (*Vermögensbilanz*) because it pays a particular attention to the country's real wealth and to an eventual change in the national assets. It assumes the following shape in its most advanced form :

NATIONAL ASSETS

(country's real wealth in a broader sense)

I. Active Material Wealth (its unemployed or idle portion should be indicated as far as possible in a marginal note).

A. *Fixed Material Wealth* (or assets).

1. Cultivated land and awoken natural resources (like e.g., harnessed water) at home and in the colonies.

2. Reserves or stock of raw materials which are exactly known and exploited. This is again a certain kind of awoken natural resources.

3. Artificial (*i.e.*, man-made) communications and installations, like canals, highways, harbors, etc.

4. *Transportation* as means of conveyance.

5. Public buildings and installations, like parks, lighting in the streets, etc. Defense equipment (like military aircraft, cannons, etc.). Private durable consumption goods that can be appraised.

6. Productive *durable* goods (or fixed real capital) like factory buildings, machinery, tools, livestock, etc.

7. Long term investments *abroad* relating to real estate and business concerns.

II. Circulating material wealth (or assets).

1. Salable merchandise that possesses a certain degree of international liquidity. Stocks

NATIONAL LIABILITIES

(Total claims chiefly against Social Product)

I. *Claims of home-investors*

A. Claims of the state and of public institutions in their capacity of possessors of a portion of national assets. Besides, *derived* claims of citizens who own state-securities that yield an *income*.

B. Claims of the citizens who made an investment in the country's national wealth.

1. Landowners and house-owners.

2. Capitalists, like manufacturers, owners of the apartment houses, merchants, etc.

3. Money-capitalists, *i.e.*, possessors of cash and of treasury bills which bring *no* income.

4. Private investors abroad and owners of precious metals, jewelry, etc. Here goods of a distinct international liquidity are meant.

C. Country's *Open reserves* *i.e.*, claims of the state and of the public institutions as possessors of non-distributed parts of the previous social products.

1. "Expenditure and loss reserves," *i.e.*, some reserves possessed by the Treasury for an emergency case like, e.g., hoarded strategic raw materials, precious metals reserved for the eventual war expenditures, etc.

of salable domestic finished products.

2. Claims against foreign countries, like deposit accounts abroad, bills of exchange, etc.

3. Precious metals, foreign exchange, jewelry possessed by the state, domestic banks, etc.

III. Labor Inventory (only employed labor considered).

1. Labor represented by those who employ their muscles.

2. Labor of the brain-workers.

IV. Immaterial Wealth (incl. some intermediate goods).

1. Immaterial goods.

(a) Salable rights (patents, secret devices).

(b) *Productive* forces in the narrower sense, like legal order as *security*, world reputation of educational institutions, etc.

2. Free goods, which virtually yield a rent, like eventually climate, sea-beaches, etc.

V. Transitory items (latent wealth), like unawakened natural resources, hoarded treasures in private hands.

VI. *Negative balance* or excess of national liabilities over national assets.

2. Gold reserves of the Central Bank kept for financial purposes.

3. Social-security reserves.

D. *Claims* of the citizens as active or latent labor.

1. Claims of the whole home-population (incl. unemployed) to be able to cover living expenses.

2. Claims of acting manual workers (minus living expenses).

3. Claims of acting brain-workers (minus living expenses).

E. Claims of the state, public institutions and citizens in their capacity as possessors of immaterial wealth. To this category of *claimants* belong Research and educational institutions, patent bureaus, travelling bureaus, etc.

II. *Claims of foreign investors*

(a) Foreign States.

(b) Foreign capitalists.

(c) Foreign churches.

III. *Transitory items* (i.e., claims of the owners of latent material resources). These items are practically counterbalanced by the corresponding items on the *opposite* side of the given balance-sheet.

The correct idea that the real wealth of a country is something more than a mere sum of the individual (mostly private) material assets is typical of the German Romantic School. This was definitely stressed by List, Adam Mueller and Spann. In particular, according to Spann, the real wealth of a nation consists of material goods, labor inventory, immaterial goods, productive forces, free goods and slumbering forces. This elaborate concept

of national assets (as we prefer to say) is very logical and desirable because the socio-economic balance sheet must consider, in contradistinction to an accounting balance sheet, labor inventory and intangible assets which can be appraised.

If we take our socio-economic structural balance sheet in its most developed form, we shall see that its assets' side is based on the following main assumptions :

1. The unemployed human beings and the idle material goods (*i.e.*, a portion of labor inventory and material wealth) do not contribute anything to the country's actual productive wealth and for this reason are excluded from the national assets. On the other hand, they are represented by some items on the right (liabilities) side of the balance sheet because unemployed labor and owners of unused material productive agents continue to possess a claim against the national income or liquid parts of the country's real wealth since they furnish some potentialities, that is, still act as "investors" from the standpoint of the social whole.

2. Non-durable consumption goods which are not treated as merchandise and are not written off are likewise omitted by the balance sheet on its assets' side. On the other hand, cultivated land and all awakened natural resources are taken into account.

3. As far as free and immaterial goods are concerned, they must be considered by the balance sheet as assets, provided that they can be appraised at least roughly and indirectly through capitalization of their regular yield.

4. The latent or slumbering forces, (*i.e.* unawakened natural resources, hoarded precious metals) can appear among national assets only as a transitory item which is counterbalanced by a corresponding item on the opposite liabilities' side of the balance sheet. Such goods are passive and scarcely perceptible; yet, it is desirable to take them into account, as far as possible, because they give a deep insight into productive forces, or rather potentialities, of the given nation.

The valuation of national assets is a rather complicated problem but the difficulties are not insurmountable. Some influential German economists paid attention to this problem, such as Spann and William Lexis. Also Ernest Engel who enjoys a world reputation for his theory of consumer's budget could come into consideration. The main assumptions which in principle must be made when one wants to appraise national assets are the following :

1. Any item of the country's real wealth is estimated in terms of neutral money, the purchasing power of which remains constantly stable.

2. The rate of interest at which the revenues are capitalized in order to appraise the income yielding assets of any kind may fluctuate only in moderate degree. It is, of course, desirable to see closely the change in percentage distribution of national assets that represent fixed material wealth and appraisable immaterial wealth. Yet, a violent change in the rate of interest causing a similar change in the estimation of the above-mentioned portion of the country's real wealth (in particular, of fixed real capital) is distinctly undesirable for the following reasons :

(a) It would prevent seeing the things behind the money veil of eventually inflated capital values. So, for instance, real capital would be the same in two different periods while we shall have the impression that it was changed if we had to do with a very unstable capital value.

(b) Marshall is right when he maintains that the increase in land's value for instance due to an increase in scarcity is not a sign of prosperity but a measure of the growing want.

Consequently, one must be very cautious while appraising the capital value of some national assets. Also, the yield which is capitalized should be an average revenue enjoyed during a longer period of time because otherwise the cyclical fluctuations will obscure the real developement.

The actual valuation of separate kinds of national assets can be summed up as follows :

1. The fixed material assets are in principle estimated at their capitalized net revenue. If they are not very durable, as, for instance, mines which are speedily exhausted, it would be better to capitalize them at a few years' purchase, that is to say, to estimate them at their average yield multiplied by a definite number of years. Some particular items, like, livestock should be appraised in conformity with their average market price pertaining to the given period.

2. Circulating material assets and some items of immaterial wealth, like patents, should be likewise appraised in conformity with their average market price during the period under consideration.

3. Free goods and immaterial goods (including some intermediate goods in our sense) enter the balance sheet only if they yield a regular revenue which can be capitalized like, for instance, the seabeaches of France, the mountains of Switzerland, German universities before World War II, etc.

4. Labor inventory is estimated at capitalized total money wages received in the given period. One takes into account

the average wage for each kind of labor. On the opposite, liabilities' side of the balance sheet there is the same amount plus adequate dole multiplied by the actual number of unemployed.

The valuation of national liabilities does not create a hard problem because national assets are imputed to different "claimants" or investors in the broader sense so that normally liabilities reflect assets. It is, however, necessary to determine statistically how the given national assets are actually distributed over different kinds of claimants. Since the structural socio-economic balance sheet acts as a kind of *index unique* it does not pretend to give an exact measurement of each asset or each claim so that the task of estimating its various items is in principle much eased.

The concept of liabilities used by our balance sheet is virtually derived from the so-called "personification theory" developed by Manfred Berliner in the field of theoretical accounting. This German economist is right when he says that liabilities of a going business concern are claims of different persons who have something invested in its assets. Even the own funds of a corporation (roughly common stock) are claims of the shareholders against the firm which qualify them to get a share in its objectively normal net revenue, its eventual profits and finally in its assets (*i.e.*, its real wealth) in the event of the firm's liquidation. Thus, Berliner's approach personifies the business concern as a distinct conceptual reality and assumes that the firm is indebted not only to the creditors but also to its owners. Besides, it is evident that there is not a single portion of the liabilities which would not under normal conditions somehow be invested or embodied by the firm's assets. This implies that liabilities of a firm represent its formal capital.

Likewise, our structural socio-economic balance sheet assumes that the national Liabilities are embodied by the national assets and that the "personified" national economy is a conceptual reality. This means, however, that everybody who takes part in the given national economy has a certain claim against its assets, or at least against its real income so that national liabilities give an insight into the actual personal distribution. In other words, each participant is a certain, even if sometimes a peculiar "investor." So a proletarian (unless he is an invalid) participates in the country's labor inventory which is a portion of the national assets either as an active or as a potential labor force and thus is an investor "*sui generis*." Roughly speaking, national liabilities show (almost like the liabilities of a firm) to whom the country's assets belong or who has invested in the nation's real wealth conceived in a broader sense since we assume that this wealth contains also some immaterial items and labor inventory.

We must however be cautious while speaking of a resemblance between the liabilities of a private corporation and those of a national economy since there is no absolute analogy. The following propositions pertaining to national liabilities will elucidate this contention :

1. National liabilities comprise some items that have no counterpart on the opposite assets' side of the balance-sheet which is an impossible case from the standpoint of an ordinary accounting. This is caused by the claims of unemployed labor and of persons who own idle (*i.e.*, unused) material wealth.

2. A peculiar category of national liabilities is represented by the claims of pure money capitalists, who own only cash and treasury bills which yield no income. The latter case is, however, unknown in America. Such persons conceived as inactive capitalists have claims only against the liquid portion of national assets (*e.g.*, precious metals) but not against the social product.

3. The state and public institutions should be also considered among "investors" at least because they possess and manage the durable material goods that are necessary for gratification of collective and semi-collective wants.

4. The national economy just like a private business concern must take into account the claims of creditors who are, however, in this case only foreigners. This item shows the degree of denationalization of the country's assets. On the other hand, any internal public debt is less essential because it concerns exclusively the national liabilities and appears especially as a derivative claim of some persons who own the state's income yielding securities. Such creditors of the state are important only from the standpoint of personal distribution ; otherwise, their claims represent an indirect mortgage laid upon the national assets but not a direct participation in the country's material wealth. These capitalists are, however, not identical with the pure money capitalists since they have a distinct claim against national income.

The above-discussed structural socio-economic balance sheet can be developed in one of the following three ways :

1. In its most simplified form it will pertain exclusively to the material wealth of the country so that its usefulness will be very restricted. In such a case, it will be able to show only the composition of the national material assets, their distribution over different categories of claimants (that is, personal distribution in a very broad sense) and finally a change in the national material wealth if the given balance sheet is compared with previous successive and analogous schemes.

2. In its less simplified form, our balance sheet will take into account labor inventory but will disregard its unemployed part. In addition, the whole real capital will be treated as if it were fully employed. On the side of liabilities the item representing "living expenses" will be omitted so that active and passive items concerning labor inventory will be equilibrated. All this implies that there will be no excess of national liabilities over national assets.

3. In its developed form, the structural socio-economic balance sheet will normally show a negative balance caused by the actual technological unemployment of some portions of the given real wealth of the nation. Such a balance sheet could be considered not only as an ordinary index unique or a "prosperity thermometer" but also as a "totalizing" index (likewise in the terminology of Andrew Liesse) since it can serve as a barometer and thus may help to forecast some changes in respect to unemployment and to the awakening of productive forces. It is evident that for all such purposes the given balance sheet must be closely compared with some previous similar schemes.

Our advanced socio-economic balance sheet enables us to see the national economy as a whole, gives a new supplementary interpretation of "personal distribution" and shows us at least roughly the following important characteristics of the given national economy in the given period of time, namely :

1. Composition of national assets (in particular, the character of the material wealth) and the actual personal distribution in a broader sense determined by the given composition of the national liabilities.

2. Actual development of productive forces and the degree in which the given country exploits its immaterial wealth.

3. The degree in which the national assets are denationalized.

4. The degree in which the given national economy suffers from structural unemployment of its various resources.

Any kind of socio-economic balance sheet offered by us is distinctly structural in its essence and can be very well supplemented by the socio-economic account of Nicklisch-Soviet type which is however in principle far less instructive although it cares more for the problem of national income.

The structural socio-economic balance sheet in its advanced form is evidently a far more realistic means of measuring the

welfare of a capitalistic national economy than, for instance, an identification of the national welfare with theoretical "optimum conditions," as is suggested by A.P. Lerner, Oscar Lange, Abram Bergson, Melvin Reder, etc. This latter approach practically means that the given national economy maximizes its welfare if it assumes the character of a stationary economy in which any socio-economic phenomenon attains the status of a genuine total equilibrium. Such a contention has a certain theoretical justification but is devoid of any pragmatic significance because in reality there can be no stationary national economy since the tendency to violate the total equilibrium conditions is inherent in dynamic economic life. It is, for instance, impossible to assume that in a modern national economy the marginal rate of substitution for each pair of consumers' goods could be the same for all householders. Also, the kindred attempt of Pareto, Hicks and Barone to identify the welfare of the national economy with such a status when it becomes impossible by any reallocation of resources to enhance the welfare of one household without reducing that of another is unacceptable because under such an assumption the increase in general welfare on account of a rise in the remuneration fund (social product) which was caused by a redistribution of national income at somebody's disadvantage in the preceding years can hardly be recognized as a sign of welfare. Practically Pareto describes an "optimum situation" under strictly static conditions; though in the dynamic life the given optimum does not mean necessarily a genuine objective welfare. We doubt that such a welfare would be really attained if every firm became marginal.

It seem to us that one could propose a national welfare index which would not be a socio-economic balance sheet only in the case that one was willing to use for this purpose a hedonistic balance-sheet based on Marshall's consumer's rent. Such a balance sheet would have looked as follows:—

PLEASURE (satisfaction)

1. 'Prices which individual was *willing* to pay as a consumer.
2. Prices which individual has *virtually* obtained for the sold goods, or which he *might* have received if he sold the given material goods and services (here individual is conceived as producer).

PAIN (dissatisfaction)

1. Prices which he *has paid* as consumer or *money costs* which he had to incur if he produced a good for his own consumption.
2. Prices which he was *willing* to accept according to his expectations (i.e. subjectively expected prices).
3. *Positive* psychic net revenue (here positive balance is assumed).

If the first item of this account is positive, it yields a positive aggregate consumers' rent (or surplus). If the second item is positive one derives from it a positive aggregate producer's rent.

The above cited balance sheet does not analyze the final consumption as such but rather the satisfaction which was expected from it or could be derived from it. Consequently, not the final consumption is considered, but only a preparation for it. One may assume that the given national economy enjoys welfare if the majority of its citizens have positive hedonistic balance sheets. Such a proposition has a certain affinity with the views of Pigou; yet is superior to them because it does not imply, in Pareto's language, that the subjective utilities are interpersonally commensurate. Such a proposition is, however, rather severely theoretical because it would be hardly possible in real life to induce a large amount of individuals to develop hedonistic balance sheets and especially to put them at the disposal of a government statistical bureau.

CHAPTER XXII

SOCIAL RENT

(National Dividend)

There is a difference between "national dividend" and "national income" although some economists, such as Marshall and Pigou, use both terms as synonymous which causes a certain confusion. This is, however, excusable because the term "national dividend" popularized by Major Douglas is in principle inappropriate and should be in our opinion replaced by another more suitable expression, like "social rent." Yet, we retain here the term chosen by the British Social Credit Movement since it is largely familiar to the English speaking world. In any case, we are to understand by national dividend people's rent derived from the natural right of every citizen to participate in the actual social product even if he is unable for some reason to contribute to its formation. It is to be understood that such a rent representing in such a case, unearned income should not fall below the actual objectively normal living expenses and that it is due to a citizen as a "social dividend" on his heritage especially of immaterial wealth, such as the science and practical arts.

We have seen that the structural socio-economic balance sheet in its advanced form suggested that the claims of the entire home population (including unemployed) against social product based on the citizen's right to exist is to be counted among the ordinary national liabilities. This implies that any increase in structural unemployment makes the socio-economic balance more negative by raising the gap between the actual contribution of the working population to the active national assets and its claims against the current social product. Thus, the structural socio-economic balance sheet recognizes the problem of social rent in its both major aspects, namely, as a natural right of every citizen to lay a certain claim against national income and as a means of decreasing the hardships caused by a structural unemployment in the present system of social distribution. The above-mentioned natural right of a citizen is tentatively confirmed by actual American social legislation which entitles every aged poor person to claim a very modest monthly allowance from the nation and this practice begins to be advocated by some American economists. So, Professor J.M. Clark declares that the unemployed persons inflict "social costs" which must be covered

by the nation while Dudley Dillard maintains virtually the same thing by admitting that all workers must eat whether or not they have jobs so that to the national economy as a whole, labor is a fixed cost which goes on whether the worker is employed or unemployed. Also according to Raymond Bye a minimum of subsistence should be guaranteed to everyone.

There are now quite a few approaches to the problem of national dividend. We shall consider here, however, only the two following as comparatively the most interesting :

1. The *social credit theory* of Major Clifford Douglas which exercised a great influence on some social movements in Great Britain, Canada, Australia, and France. In particular, the leading economic experts of the Anglican High Church in England, like, Rev. V.A. Demant and Rev. F.P. Widdrington are in a large measure influenced by the social credit movement.

2. The *People's rent theory* introduced by the Russian French economist Joseph Kefeli, who presented his views in 1937 in a French book entitled "Social Rent."

Each approach advocating the citizen's title to a certain social rent is based on the following fundamental assumptions :

1. Humanity has already entered the era of abundance. It is, of course, conceded that in case of a major war there can be a very acute scarcity of goods. Yet, such an abnormal development does not change the general trend. Roughly speaking, it is assumed that technological productivity of an economically advanced country, like America, could be raised to an almost unbelievable extent and thus would exclude from the process of producing material goods a large portion of the working population. It is certainly not denied that human wants are liable to the laws of expansibility and variety ; yet, it is believed that the tempo of the increase in production tends to surpass that of the expansion of demand. If this capacity to reach real abundance is still even under normal conditions not quite a matter of fact, the reason is rather institutional, namely one cannot develop quickly all the productive forces of a capitalistic national economy without violating the given social limit of profitability unless some radical cost saving innovations are constantly introduced which is, however, hardly possible. Consequently, the present capitalistic system of personal distribution should be modified in such a way that the purchasing capacity of the broad masses of population becomes able to absorb any increase in the currently produced volume of commodities. This train of ideas is especially typical of every modern technocratic movement stimulated by the works of quite a few Anglo-American thinkers, like Veblen, Stuart Chase, H. Scott, Frederick Soddy, etc.

2. Any radical increase in physical productivity leads inevitably to a simultaneous growth of structural or technological unemployment. The reasons given for such a development can be summed up as follows :

(a) The process of substitution becomes increasingly unfavourable for labor in any existing branch of the national economy, especially in the field of manufacturing. For instance, the mechanization of the process for producing bottles has removed thirty-nine workers out of forty. Some American technocrats, like Chase and Scott estimate that on the average every American worker even before World War II produced in a mechanized factory the same amount of goods as 3,000 workers did formerly. This statement is perhaps a considerable exaggeration; yet, the trend as such should not be denied.*

(b) Newly created branches of industry cannot absorb the workers set free by the mechanization of some older branches of mining and manufacturing because they act from the beginning in a distinct labor-saving way, (e.g., aluminum production) or quickly adopt the conveyor system (e.g., the aircraft industry). We share the opinion of the technocrats that minimizing this trend is self-deception. So, for instance, Willford King in our opinion oversimplifies reality when he declares that there can be no structural unemployment because the number of laborers hired to produce new goods in other lines will roughly equal the number displaced by the invention in question and that the process of securing better quality of the already well-known kinds of goods requires a great addition to the amount of employed persons. Such a serene attitude is hardly congenial to the present epoch of the second technological revolution. The labor saving trend is true even with regard to modern agriculture. So, according to the Bureau of Agricultural Economics, if figures for the years 1910/1914 are used to represent the base period with an index number of 100, by 1946 the index for farm employment had dropped to 83.

(c) The newly introduced material goods are frequently substitutes of a superior quality which in some cases decrease the aggregate demand for labor. Very typical again is the aircraft industry which considerably damages ship-building widely

* The development of the electronic devices that regulate and control the operation of machines makes a new "automation" era quite possible. One should not, for instance, disregard the fact that in 1956 only 14 automatic glass blowing machines operated by one man produced 90% of the light bulbs used in America. A system of automatic machines installed by General Motors produces 2,000 pistons an hour without being touched by a worker's hand. In addition, there is already an automatic accounting system. It is claimed that an electronic computer operated by 9 men can replace 50 bookkeepers.

employing as it does modern labor saving devices. In other cases, a new industry, like the production of plastics cannot represent an outlet for the unemployed labor since it necessarily hurts some older branches of production.

(d) The labor saving processes of mechanization and rationalization also affect offices so that one can hardly say any longer like Henry de Man that an increase in the number of white collar employees tends to offset an increase in the number of unemployed manual workers.

3. The rising self-consciousness of the working masses requests more and more freedom from poverty (or starvation) and shows a tendency to consider the national real assets as in some degree collective wealth. Simultaneously a desire for security begins to threaten a formerly wide spread passion for acquisition.

For all these reasons, the social movements under discussion believe that the only realistic chance of counteracting the growing expansion of communism is to introduced a social rent. They assume that such a policy would have recognized every citizen at least in principle as a co-owner of the national assets, would have stressed the functional obligations connected with private property and would have established economic security for everybody by recognizing the right of any unemployed citizen to cover minimum living expenses in a purely collective way as if his individual wants were really purely collective. Thus, any movement espousing the idea of national dividend is in principle more progressive than Marxism because it passes beyond the usual socialistic belief that in the case of structural unemployment everybody has to fight for the right to participate in the production of material wealth. In other words, each social movement of the above-mentioned kind seeks to enable every involuntarily unemployed citizen to exist or to render services of a purely spiritual nature but not to force him upon the industries producing material goods if this field of total production does not need his services. This is the main reason why every faction of technocracy, in particular the contemporary British Social Christian movement advocates a rational organization of leisure—which implies that human relations must become a close object of experimental sociological study—as is suggested, for instance by Leopold von Wiese.

The "social credit theory" of Major Douglas integrates quite a few modern theoretical issues like the dynamic theory of credit, the demand deficiency theory of business cycles, the technocratic train of ideas, etc. Although Douglas accepts the dynamic theory of credit in its purest form, he tries to adjust it

to his theory of the national dividend and thus adds to it quite a few highly controversial ideas. His position can be reduced to the two following propositions :

1. The purchasing power created by the banks is largely used by the entrepreneurs to buy materials which represent a sterile outlay from the standpoint of the given period or in respect to the current aggregate consumption. The same is true of the bank charges and entrepreneurial profits connected with credit creation. Thus, banks deepen the disequilibrium evil between production and consumption by favoring the formation of such outlays which do not give rise to spending power. It should be recalled that this proposition of Major Douglas was already rejected by us in another context.

2. The private commercial banks can be allowed to collect and to lend freely the individual savings against an interest but their functional capacity of creating credit in the strict sense should be nationalized. This will enable the state to change the very nature of credit creation which is now harmful but could be a useful institution. In other words, the government will fix every year the amount of purchasing power which should be created by the banks at its request and would be used for financing final consumption by means of a national dividend. Such a policy will enable every pure consumer to pay only just prices.

Major Douglas understands by "just price" a portion of each market price which is made up of costs representing the amounts spent on services of whatever kind that pertain directly to a human being, like worker, manager, or shareholder. Only this portion of the market price should be, in his opinion, paid by the consumer. On the other hand, the remaining portion of the market price ought to be covered by the government by means of a created purchasing power. He suggests that the state fix the just price as a certain percentage of the market price on the eve of each calendar year. A careful computation of such a price is considered by Douglas as a very essential procedure because it will have to determine the following important phenomena :

1. The limit to which purchasing power could be created by the banks during the given period at the request of the state.

2. The limit to which the national economy should be permitted during the given period to spend on materials and to write off depreciation of its real capital.

3. The size of the national dividend which will be due during the period under consideration.

Major Douglas developed quite a few theorems that are supposed to serve the computation of a really "just price" for which the buying public should be made responsible. We offer here at first the most advanced equation that looks as follows :

<i>Market price</i> of the given commodity which equals the costs of the marginal retailer and includes "normal profit."	The value of production the value of imports+capital appreciation
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<i>Just price</i>	The value of all goods sold+the value of exports+capital depreciation.

Some followers of Douglas (in particular, those who write in Canada) substitute for production the expected producing capacity—which raises the computed national dividend. Some other Douglasites recommend the omitting in the above-cited scheme any reference to foreign trade because an increase in exports lowers the national dividend and thus may make export trade unpopular although it is in reality particularly needed by some industrialized countries.

The main scheme of "just price" offered by Douglas can be presented in the following simplified form :

$$\frac{A \text{ (just price)}}{B \text{ (market price)}} = \frac{\text{consumption}}{\text{production}}$$

If we assume that the market price of the given commodity amounts to \$100 and that the current total production is four times as big as the current total consumption, the "just price" of the merchandise under consideration will be computed as follows : just price $= \frac{\$100}{4} = \25.00 or one-fourth of the market price so that the actual national dividend will amount to 75 per cent of the current market prices. This implies that an increase in the current total production (*i.e.*, a development of the productive forces of the given country) raises the actual national dividend and thus increases the purchasing power of every buying individual provided of course that the current consumption does not increase simultaneously in the same proportion.

If we assume that the current national dividend amounts to 25 per cent and that a hat costs \$8, each buyer will have to pay (according to Douglas) the entire market price but the retailer will have to give him a voucher for \$2.00 which can be at any time cashed in the bank so that the given hat will cost the buyer practically only \$6.00. In order to redeem a voucher,

each bank will be permitted by the government to create the corresponding amount of purchasing power. A special government bureau will collect the vouchers acquired by the banks and thus will control the entire credit creation in the strict sense which will practically cease to be a creation of investing power.

Major Douglas expects very much from such a policy. He believes that the realization of his scheme will lead to the following extremely positive results ; namely :

1. Credit creation in a narrower sense will cease to be a negative phenomenon of an inflationary tendency.
2. Final consumption will so much increase that there will be no relative over-production of consumers' goods.
3. The national economy will reach and hold full employment of its resources so that a depression will become impossible.
4. Every citizen will enjoy a national dividend which will increase when the productive forces of the given country grow.
5. The class struggle preached by the communists will become senseless.

It should be noted that Major Douglas considers the national economy as a certain corporation, the stock capital of which belongs to all citizens even if the majority of the respective imaginary stock certificates are in the hands of the well-to-do people. According to him, every proletarian is entitled to get the benefit of increasing production of his country and thus may claim a regular participation in the current national dividend. It seems that originally Douglas assumed that every citizen will be well provided for if the above-discussed method of financing final consumption is enforced by the state. Later, however, he began to realize that a genuine proletarian will be unable to act as a buyer even if he receives some vouchers from the retailer. This induced Douglas to suggest that any citizen get from the state a minimum national dividend in cash regardless of his buying transactions provided that he spends his income during the given period on purchasing some goods of final consumption. The latter part of this proposition shows that Douglas is influenced by the late Bavarian economist Silvio Gesell who has quite a few followers in Argentina, Austria and Switzerland. It should be stressed that Keynes and Irving Fisher were also impressed by Gesell whose teaching is based on the idea that money in the

strict sense must automatically depreciate during the process of circulation—which will preclude its hoarding. In other words, Gesell recommended the introduction of the so-called “stamped money” represented by currency notes, which would retain their market value by being stamped each month like an insurance card with stamps purchased at the post office. Should such notes be hoarded their owner would be practically forced to pay a tax of four to five per cent on their face value. It is rather surprising that California in 1938 voted on Gesell’s project since it was proposed to issue some scripts as means of assignment to which stamps ought to be attached at regular intervals until the accumulated taxes equal their face value and could be used to redeem them.

Our criticism of the social credit theory developed by C.H. Douglas can be reduced to the following main propositions :

1. Major Douglas assumes himself that the national dividend will not amount at present (under normal conditions) to more than 25%. Consequently, the ratio of consumption to production is supposed to be one to four. In such a case, however, a really poor man would be unable to increase his effective demand for consumers’ goods. If he, for instance, has to pay \$6.00 for a hat instead of \$8.00 he will still be unable to buy it. Douglas gradually understood this and came to the idea that the government should give everybody vouchers for the amount of \$300 per annum obtained by means of credit creation and delivered through the post office. It is, however, evident that such a grant in scripts will not help a man who has no income so that the problem of poverty will remain unsolved.

2. Douglas assumes that the national dividend paid in the form which he proposes cannot produce an inflation although the additional purchasing power will be created by means of “social credit,” *i.e.*, practically “out of nothing.” He even believes that the general price level will ultimately fall because the selling of goods under their market prices (rather costs) will greatly stimulate total production. This is, however, an exaggeration since as mentioned above the stimulus will be rather ineffective. In addition, if the retailers are unable to increase their supplies quickly—which can happen when the production is handicapped by a shortage of materials—the prices of the consumer’s goods that are sought by the possessors of the vouchers will have to rise. This latter criticism is, however, transcendental because no technocrat will admit a shortage of materials or any other reason for slowing the process of production.

3. It is strange to expect that the payment of a national dividend in the form which Douglas suggests can remove the class

struggle because the actual distribution of national income will remain very uneven and there will be no radical change in the material position of a genuine proletarian. Besides, every slowing of production or decrease in imports will have to reduce the current national dividend and this may easily provoke serious discontent because the man in the street will be unable to understand the reason for having a smaller income, especially as long as the means of production are handled by the private owners.

In spite of all these weak points in Douglas' ideas we rather share the opinion of Keynes that Douglas is an economist in his own right and that he should not be underrated as a "naive underconsumptionist"—as is done, for instance, by Professor Estey. The reasons why Major Douglas deserves far more serious attention can be summed up as follows :

1. He was the first who introduced scientifically the concept of national dividend conceived as a certain social rent.

2. He first popularized the idea that poverty should be mitigated by means of an unearned income which would not be considered as relief so that there would be a distinct sublimation of modern social security policy. In addition, national dividend has to serve, according to him, as a means of financing final consumption, and thus deserves attention on behalf of those economists who believe that the so-called underconsumption is at least one of the major factors which cause depression.

3. His partisans came to a very essential and correct conclusion that the "organization of leisure" will become the most vital task in the case of a further continuous increase in man's power over nature.

In 1935, "the social credit league" led by a disciple of Major Douglas whose name was Aberhart and who acted as the director of the Prophetic Bible Institute in Calgary won elections in the province of Alberta, Canada. All attempts to try out the social program of Douglas were, however, futile because the Canadian Federal Government forbade the creation of a new bank which would be entitled to issue the necessary vouchers by means of "social credit." The national dividend in the strict sense which had to be granted gratis to every citizen regardless of his purchases was determined in conformity with the Major's suggestions and thus came to \$300 per year. There were, however, differences between the teaching of Douglas and the views of Aberhart. The latter assumed that the social credit policy will be of an inflationary bias and for this reason insisted upon the government's right to control prices. Besides, Aberhart wanted to cover a portion of the considerable expenses

connected with the payment of national dividend by means of a special sales tax.

Also, in the United States, since the so-called "Great Depression" there is a distinct tendency to be influenced by Douglas' train of ideas. In this connection should be mentioned Dr. Townsend's proposal to give every person over sixty years of age the benefit of \$200 per month which had to be spent within a month on consumption goods and ought to be financed by a 2% transaction tax. Also, Senator Huey Long of Louisiana developed a kindred plan to share the wealth and to give every poor man a regular competence. Still in 1938, Y. E. Meade proclaimed the right of every unemployed person to be supported by the state in the case of a major depression while the benefit was to be paid by means of a special tax levied on the workers and employers.

There is no doubt any longer that the main idea of Douglas that every citizen is entitled to ask for the means of subsistence is already entering the American standard of living. This is proved first of all by the introduction of an old age pension for the American citizens who are 65 years of age or more. This social security measure is vital practically only for needy persons who in 1948 did not exceed 21.6% of the respective part of the U.S. population. The trend toward greater social security is confirmed nowadays also by the fact that even the most conservative economists begin to accept the policy that every unemployed worker must be supported by the state. Very typical of this development are the views of Willford King who admits that the government has a functional duty to furnish employment, that is, ultimately means of subsistence at all times to any person who cannot obtain work elsewhere. Since, however, King shares the idea of the early British mercantilists that a poor man tends to be a loafer and simultaneously sympathizes with the purely economic theory of commutative justice, it is rather consistent that he tries to restrict the government employment and to make it as disheartening to the worker as possible. His recommendations can be reduced to the three following propositions :

1. No relief jobs furnished to an able-bodied employee should call for less than sixty hours of time per week.
2. In all cases, the work should be more strenuous than that required in like occupations by private employers.
3. The rate of pay per hour should never be more than 60% as high as that customarily paid by private employers for similar work.

All this implies that although according to Professor King a victim of technological unemployment (the importance of which he rather minimizes) should be negatively discriminated against and almost chastized, he still is entitled to get a job from the government if private employment proves to be temporarily insufficient.

A very distinct influence was exercised by Major Douglas on some social reformers in continental Europe who openly embraced his idea that all social evils will be cured if some national dividend is paid by the state. Perhaps the most interesting attempt of this kind was made in France by Dr. Joseph Kefeli who was a physician by profession like Petty, Quesnay, Oppenheimer, etc. before him but acted as economic dictator of Trapezund when that Turkish city was occupied by the Russian army during World War I. The main propositions of Dr. Kefeli can be summed up as follows :

1. Every citizen is a tenant "sui generis" from the standpoint of the national economy as a whole and simultaneously its co-owner, being an heir of the past. Thus, he is entitled to claim an annual national dividend as an unearned share in the social product. The payment of this dividend should be, however, arranged in such a way that practically only a poor man profits by it. The main task of the national dividend is to eliminate poverty or starvation; yet it will serve also as a "cushion" for every well-to-do person who may at any time lose his fortune on account of some business miscalculation.

2. The introduction of such a reform, that is, the payment of a social rent will not require a change in the actual socio-economic order of a capitalistic country. On the contrary, the state would even be able to give up its participation in the production of material goods.

3. The national dividend should be financed by means of a special tax, the size of which has to be manipulated with regard to the actual phase of the business cycle so it will rise in the case of a boom and vice versa. Thus, the current social rent will be in part paid out of the special reserve funds. Since the social rent will cover the actual living expenses of an individual, any other government expenditure connected with social security policy should be abolished.

Kefeli suggested that the government issue an annual book with special coupons in the name of each citizen which will be used to pay the capital tax that will serve as the source of the social rent. If a possessor of such a book is a well-to-do person the amount of the coupons will be insufficient so that he will have

to pay a part of the above-mentioned tax in cash. On the other hand, a poor man will be able to turn into money quite a few coupons—which will give him a share in the current social rent. Kefeli insists that the national dividend should be modest because otherwise the idleness may grow. He assumes that the normal allowance of a soldier which amounted in France in 1937 to 300 francs (*i.e.*, approximately \$17.00) per month could serve as the best measure. According to the statistical calculations made by Dr. Kefeli in 1937, the French national dividend would have reached in this year 140 billion francs although at this time the national income of France was estimated at 250 billion francs and the entire budget of the state did not surpass 60 billion francs. Yet, he insisted that the major part of the social rent would be nominal because only 8% of the French population consumed roughly in conformity with the soldier's ration. In other words, Kefeli believed that the factual national dividend would not have surpassed in 1937 in France a comparatively modest amount of 12 billion francs. Since, however, the French government spent in this year 9 billion francs on doles, social insurance, etc., the substitution of a national dividend for the existing social measures would have caused in reality but a modest extra expenditure of 3 billion francs. Thus, in 1937 only 8% of the French population would have lived on social rent while all other Frenchmen would have enjoyed a feeling of security caused by freedom from starvation. Like Major Douglas, Kefeli expects very much from the introduction of a national dividend in accordance with his project, namely : abolition of poverty, disappearance of the class struggle, mitigation of cyclical fluctuations, development of cultural pursuits, etc. Even the government's expenditures on justice will, according to him, decrease because the crimes will almost disappear.

Although Douglas exercised an apparent influence upon Kefeli, there are important differences between their viewpoints which can be summed up as follows :

1. Kefeli's project is a more humanitarian measure than that of Douglas since the latter plan is in the first instance a means of financing final consumption. On the other hand, Kefeli's social rent does not change in conformity with the development of the nation's production (or productive forces)—as is suggested by Douglas so that it appears to be more a pure social security measure than a far-reaching evolutionary reform.

2. Kefeli's project is not supposed to be financed by means of credit creation as that of Douglas. Consequently, it is not inflationary. On the other hand, any capital levy is unpopular especially if it has to be paid every year.

Our criticism of both projects which in spite of their differences have much in common can be reduced to the following propositions :

1. Both schemes minimize the present social security legislation which is at least a good stepping stone if one cares for substantial social reform. Especially Kefeli goes too far in this direction since he suggests that the entire existing social policy be abolished.

2. The national dividend is in both cases paid at least in principle to any citizen even if he is a well-to-do person—which has a certain ideological justification but brings about an unnecessary complication. In the case of the project advocated by Douglas there will be even an unnecessary increase in the created purchasing power.

3. The proposed national dividend will in both cases be very modest. Consequently, it is rather impossible to expect that such a social security measure will remove any reason for the growing class struggle. In particular, the plan offered by Douglas hardly touches the present system of personal distribution.

In our opinion, the idea of a national dividend or of a social rent which is so vigorously advocated by Douglas and Kefeli is a rather powerful creative myth, in Sorel's sense, which could have a major attraction for the contemporary socially sensitive and politically aroused masses. For this reason, it should not be neglected but rather moulded into a more realistic and advanced form. In particular, one must make use of the modern social security measures which were universally or tentatively introduced by several civilized countries. To the first category belong, for instance, public pensions, doles, public works, etc., while the second category is represented by such advanced social security devices as old age rent, providing of gratuitous education for youths, socialized medicine, etc. Thus, in our opinion, different sporadic social security measures should be combined in a regular system and sublimated as a certain "social rent."

Such a compound "national dividend" would be composed of some static elements and simultaneously of some dynamic constituents. In the first case, we mean an unearned income which does not alter with the change in the volume of national production, as, for instance, old age allowance or "young age rent" paid to the studying young persons. The second case represents just an opposite phenomenon. The most fundamental dynamic constituent of the social rent will be a dole which should be freed from its inadequate and socially humiliating character. In general, the state has to declare that the compound social

rent is not a measure of charity but an emanation of man's natural right to cover his minimum objectively normal living expenses. This will, however, sound convincing only if it is admitted that structural unemployment represents a seed of man's growing victory over nature so that it is more logical to organize the leisure of those unemployed workers who are no longer needed by the mechanized production of material goods than to squeeze them into such a process of production—as we have tried to do until now. Practically the above mentioned measure will be congenial to the trend which points toward a growing production of immaterial wealth—which enables us to hope that some day mankind may enjoy a great deepening of culture assisted by an extensive use of the mechanical and automatic non-human slaves. We shall for the present have to reckon with some derived dynamic elements of social rent which will ultimately only replace the dole and will serve as an educational device as long as such measures continue to be dictated by the relative scarcity of goods and the prevailing train of ideas. Into this category belong, for instance, such social security measures as public works, concerning the production of material goods, foundation of small roughly self-sufficient farms, etc. It seems to us that the introduction of a compound social rent conceived as a system of rationally interrelated static and dynamic social security measures will lead to the following positive results :

1. There will be really a certain "social security" because needy old and young persons will be supported or induced to serve their community by producing or reproducing some immaterial goods.

2. The process of production with regard to material goods will be reserved (at least normally) for the able-bodied persons who are neither old nor young. The limitation of this category should be practically fixed in conformity with the age composition of the population and the actual degree of development of nation's productive forces.

3. Any person hurt by structural unemployment in the field of production of material goods will get an allowance covering his objectively normal living expenses, not as alms but as a rightful share in the social product or at least as a remuneration for participating in the production of immaterial wealth.*

* The present American social security legislation does not conform to the social rent idea because it is rather an insurance program which is in a large measure based on premiums paid in past by the employed citizens during a long period of time. A real social rent gives a right to income which has nothing to do with the contributions of a citizen to a social insurance fund.

We are firmly convinced that in the present epoch of the rising self-consciousness of the man in the street and of the continuous deepening of the second great technological revolution our system of private property and individual initiative needs a powerful creative myth in Sorel's or Pareto's sense if it has to ward off successfully the increasing blows delivered by the rising pure collectivism. This partly explains, why some leading contemporary non-socialistic economists, such as Alvin Hansen, Schumpeter, Frank Graham, etc. try to make recommendations which, in their opinion, might insure the survival of capitalism even if rather in a considerably modified form. In any case, the prospects for capitalism cannot be judged in our time from a purely economic or functional viewpoint since its survival depends in a large measure on its popularity which in its turn must be based on a set of attractive and thus powerful ideas even if this ideology has for its foundation nothing more than a newly fashioned "creative myth." It is evident that the famous Smithian myth of the "invisible hand" on which economic liberalism was for a long time securely based has distinctly lost its attraction for the younger generations—and this in spite of the fact that it is still rather skillfully defended by some influential economists like Hayek, Mises, Willford King and Henry Hazlitt. There is then no other way out but to attempt to reconcile the capitalistic democracy to the people's demand for a greater social security. It seems to us that the contemporary "hypnosis of collectivist slogans" does not need necessarily to lead to the end of democracy—as is, in a sense, surmised by Professor David McC. Wright, but might be reconciled to a peaceful evolution of capitalism if it is harnessed by a new "hybrid" myth, like the above-discussed social rent idea which is apparently so captivating.

CHAPTER XXIII

THE THEORY OF ECONOMIC LAWS AND METHODOLOGY

We turn now to the question, are there or are there not economic laws. Should this question be answered in the affirmative, another serious problem arises, whether one may combine in economic theory logical and historical categories and thus develop a certain hierarchy of generalizations. Further, the question how far a subjective value judgement or an ethical judgement can be used by an academic economist must be answered.

Until the present time economic theory has given four different replies to the main question whether there are economic laws. Three of them are related and could be combined into a sole group under the heading "economic nomography." We have to distinguish between the following four approaches :

1. It is assumed that there are no economic laws. Economic theory is considered as a purely descriptive science which develops only a set of concepts that serve to describe the highly dynamic economic phenomena. Such a description may only eventually lead to some theoretical conclusions generalized in nature.

This approach is defined as *economic idiography*. It is very difficult to preserve such a position in a pure form. The most typical example for such a train of ideas are the main works of Peter Struve and some essays of Francis Simiand. Gradually, however, these two distinguished economists openly joined the so-called descriptive (or "a posteriori") wing of statistic nomography. Among American economists, Wesley Mitchell is usually named as a more or less definite advocate of economic idiography, since he failed to express his teaching in terms of a model.

2. Economics is considered as a science that develops generalizations of naturalistic character, that is, natural laws. This approach represents *full nomography* but is by no means uniform. Some representatives of such a view like Ricardo or Leon Walras believe that economic laws are as universal or absolute as those of chemistry and mechanics. Some other advocates of this approach, like Karl Menger, Marshall, Mises, etc., consider economic laws as universal regularities or normal tendencies which can be developed regardless of place and time. Still

some other partisans of full nomography such as Frank Knight or Vleugels maintain that economic laws appear sometimes as exact formulae but are mostly mere generic generalizations of limited validity in place and time. This last viewpoint is, however, synthetic or in a sense reconciliatory.

3. It is assumed that socio-economic nomography analyzes a relation where the tie is of contingency or probability and not of a certainty or causality. Thus, economic generalizations are supposed to be of statistical or "stochastic" nature instead of being a mechanical device. Some representatives of this approach, like Alexander Chuprov, Jr., Henry Moore, Frederick Mills, Jacques Rueff, etc. develop their "laws" as *a priori* generalizations. On the other hand, some other members of this group, like Struve in his latest works recognize only such empirical laws which are gained *a posteriori*. This school represented by both above-mentioned factions is classified as *statistical nomography*. It is apparent that the *a posteriori* faction has a certain resemblance to idiography of which it was born.*

4. It is assumed that economic laws are generalizations of non-naturalistic nature and thus pertain exclusively to a definite socio-economic order, that is, are valid only in a given place and at a given time. This approach we classify as historical-nomothetic school and it is usually known in America as "institutional economics." Karl Knies and Bruno Hilderbrand who repudiated the contention of Rickert that "historical generalizations are non-logical" are in a sense founders of this school. Most contemporary representatives of this train of ideas such as John M. Clark, Commons, Sombart, Bulgakov, etc. follow rather Roscher's tradition and do not entirely reject full nomography; yet they accept it only as an auxiliary tool for analyzing and teaching economic problems. Such economists of this pattern, like, Professor R. Mukerjee stress ecological generalizations which show that economizing man is geo-politically bound.

From this main scheme of propositions, we can draw the following very important conclusions, namely :

1. Economic nomography or the scientific analysis of economic life based on a series of generalizations appears either as a complete or as a relative nomothetic approach. In the first case, all generalizations are developed as natural laws, that is, are based on a logical category. One should not, however, consider in this way the almost naturalistic hypotheses relating to an economic superstyle, like an abstract model of the money exchange economy in its developed form which simultaneously

* In a certain relationship to this school stands "econometrics" which means not the lawfinding but a statistical testing of economic theory stated in mathematical symbols.

pertains to very different socio-economic orders, such as capitalism or "politicized" socialist Soviet economy. In such a case, one cannot admit scientifically the presence of a "natural order." Any other nomography of stochastic or historical nature develops exclusively some relative generalizations which become void as soon as the conditions or even the assumptions are changed. In particular the hypotheses developed by the historic-nomothetic school are determined directly through the "sense-relationship by style," that is, must be interpreted in terms of the given socio-economic order.

2. Every economist who attempts openly to bring about a definite combination of complete and relative generalizations by developing a hierarchy of economic laws represents a synthetic approach, no matter if he pays particular attention to the logical categories, like Knight or stresses those hypotheses which are valid only in the given place and time, like Spiethoff or Perroux.

3. The distinction between idiography and nomography was first introduced by two famous German social philosophers, William Windelband and Henry Rickert who represented the so-called "Baden School." According to them, idiography is a descriptive, concrete, ecological and time bound approach which is fit for any social science. On the other hand, nomography simplifies reality by introducing a series of generalizations which may have different degrees of exactness and is typical of any natural science. In addition we must say that according to Windelband nomography does not only describe the laws but represents a tool of "nomothetic" research which serves to find them.

One could however only roughly say that physics is a nomography while history is an idiography, provided that it is not developed in a genetic, that is, evolutionary way. In general, at present, we use Rickert's dichotomy inspired, in a sense, by Aristotle with very serious reservations because history is seldom taught in our time as a pure idiography which would be entirely based on a mere chronological description while some influential representatives of the natural sciences, like Einstein stress the relativity also of their non-social generalizations. As to economic theory, this problem still remains controversial. Yet, every synthetic economist, like Arthur Spiethoff or ourselves applies to this theory both approaches by developing a hierarchy of socio-economic hypotheses, that have to serve as approximations to reality.

We cannot be in favor of the first school considered by our scheme pertaining to methodology. The reasons why a pure economic idiography is practically untenable follow :

1. Pure idiography which rejects any generalization can be only a styleless description of some economic data (mostly in a chronological sequence) and is devoid of any theoretical content because there is no theory unless there is a generalization. Thus, one cannot speak in this case of "constructive economics," if we wanted to use the terminology of John N. Keynes.

Plato created nomography and thus theory in our modern sense when he reduced any concrete individual phenomenon to its generalizing or simplifying idea, that is, to a "norm" which appears as a peculiar "ideal type" of an absolutely intangible character. Of course, any "ideal type" developed by economic theory has a lesser degree of abstraction; so the most simplified picture of a certain interrelation between individual economies within a national economy conceived as perfect competition is far less intangible than the pure idea of cooperation. On the other hand, an interaction of individual economies defined as pure competition can be analyzed in an efficient way only if the reality is divested of its extreme complexity. For this reason, it is virtually impossible not to make a generalization (i.e., not to be a theorist) as soon as one begins closely to observe a concrete socio-economic phenomenon.

So, for instance, Simiand tried to analyze the relationship between wages and prices in the French coal mining industry from 1851 to 1930 in the most empirical way by using the statistical method and by eliminating any hypothesis as a starting point. In other words, he wanted to avoid any pure deduction and any conclusion which could be considered as a genuine theoretical issue. Yet, in reality, he developed a relative nomography of statistic nature because he came to the conclusion that in the above-mentioned time and place the wages were roughly determined by the current realized market price of coal. He even went so far as to declare that the price of French coal was in the last analysis determined by world production of gold. Thus, a rather pure description which was originally intended by Simiand turned out to be typical relative nomography.

2. Pure idiography pretends to develop exclusively the general concepts which have to serve as mere tools for describing economic life, like, for instance, the concepts of scarcity, costs, money, etc. Yet, this contention does not hold for two reasons:

(a) Any socio-economic concept is more than a label; it is a distinct category whether of a logical or a historical character. If one says for instance "costs", one introduces already, at least subconsciously, an inevitable specification and means a certain economic style. The question arises at once whether one speaks of psychic costs or labor costs which are

logical categories or whether one means money costs that are a historical category. Without such a distinct specification, the concept of costs would be of no practical use.

(b) Any advanced socio-economic category necessarily leads to some generalization and such a procedure results in the development of some kind of nomography. Every economist who uses a certain category is inconsistent unless he admits that there is at least a relative nomography. So, for instance, when Struve declares that by money he understands a "means of assignment" he practically gives up his idiographic viewpoint because the term "assignment" means already that there is a definite quantitative relation between money and commodities to which the economizing individual is assigned. The whole quantity theory of money even in its modernized form looms behind the mere concept of money as a means of assignment. Thus, a socio-economic concept is simultaneously a category which must be applied as a tool in the process of theorizing.

3. Some economists of a distinct idiographic leaning, like Struve have such an aversion for any generalization pertaining to an economic style that they do not hesitate to declare that economic theory can be developed only with regard to a free money exchange economy. In other words, economics according to them stands and falls with capitalism. Such an assumption is, however, inconsistent because it represents a distinct generalization which they want to avoid and simultaneously is wrong since economic theory in its developed form can be applied to any socio-economic order. A slight change in the category "economic man" as it appears in capitalistic economy will cause a serious change in the entire economic activity since the subjective scales of preferences will be considerably affected by a change in the institutional set-up. Yet, the entire given economic problem will remain and can be subjected to a scientific analysis of no lesser importance. Besides, an economist of idiographic leaning is conspicuously inconsistent when he, like Struve, goes so far as to content that the 'stateless' money exchange economy is the only possible developed form of a socially organized economic life. Such a statement implies that, according to him, a free money exchange economy is an emanation of the natural law; yet, the existence of such a law presupposes the presence of a good many logical categories. This makes a purely idiographic method absolutely untenable.

One can hardly be surprised that for all these reasons any attempt to introduce a pure economic idiography fails, or leads to a certain conditional nomography, statistical and *a posteriori*. This contention is proved in particular by the development of the

scientific activity of Struve and to a lesser extent of that of Simiand. On the other hand, it is often wrongly assumed that the leading representatives of the younger branch of the German historical school, like, Karl Bucher and Gustav Schmoller, advocated the application of a pure idiography when they rejected the rising marginalist method. In particular, Schmoller never denied that economics is an analytical discipline so that he is at present correctly considered as the main progenitor of the historical-nomothetic approach. As to Bucher, he made, for instance, the famous generalization that rhythm increases the efficiency of manual labor. Of course, it is true that Schmoller and Bucher advocated the writing of descriptive monographs, such as an analysis of the price formation on a particular market in a particular medieval town; yet, they did this only because they believed that economics needs a lot of new empirical material before realistic economic theory can be developed. For this reason, some modern American economists, in particular, John M. Clark and Commons are rather distinct followers of their tradition.

The analysis which we have thus far developed proved that a close observation of any socio-economic phenomenon means that a certain nomothetic approach (at least a relative nomography) must be used. The only question is what kind of economic laws are to be preferred. In order to be able to answer this question one has to know exactly what is understood by a natural law, which is apparently a universal generalization. Such a law should not be confused with a logical category, although this happens very often. By a logical category like labor costs, utility, good, etc., we understand simply a specified concept of a universal validity. On the other hand, any natural law is a generalization based on at least one logical category. If we use, for instance, the following sentence: "Opportunity costs are especially great when desirability of the best foregone alternative use of man's effort seems to be almost equal to that of the selected use," we develop a generalization which is a distinct "natural law" since opportunity costs of the above-mentioned kind represent a logical category.

There is no unanimity among academic economists whether one should admit the existence of immutable natural laws conceived as "iron rules" or whether it is more correct to speak only of the naturalistic tendencies which are highly probable hypotheses. Such generalizations have a roughly universal validity (that is, do not pertain to a definite period or place) but still are in principle suppositions. Perhaps most economists of our time advocate the latter standpoint. So, for instance, Hans Peter would say that the above-cited generalization relating to the

logical category "opportunity costs" is only a naturalistic hypothesis because there are some persons who are not used to giving thought to a foregone best alternative use, especially when the horizontal opportunity costs are involved. Even the famous law of the diminishing returns (that is, the principle of variable proportions) which was formerly, especially in its application to the cultivation of land, universally recognized as an absolute natural law, that is, an "iron law," is at present reduced by a good many economists to the rank of a universal hypothesis because they emphasize that any major change in agricultural technique upsets this law. Of course, they do not go so far as to say, like Lenin, that one should discard this law altogether since it never works. On the contrary, they stress that it is valid very distinctly under the so-called "normal, *i.e.*, static, conditions. We would, however, say that the principle of diminishing returns is an immutable natural law, that is, a permanent "iron" principle on account of its technological or natural character. It never can be abolished as such; only its functioning with regard to the given productive agent could be eventually obstructed by the man. On the whole, however, we have to admit together with Marshall, Ely, Heller, etc. that the generalizations of universal character with which full nomography deals are usually mere tendencies of a very general applicability and are only in that sense "natural laws" as they are wholly in line with the action and intent of nature. In particular, this is true of generalizations which pertain to the man's psychology. Such universal tendencies are seldom iron laws because man as the lord of nature and a rational being has the power to modify the environment in which he operates by his own conscious effort no matter whether he has to do with a natural phenomenon, like fertility of the soil or with an institutional case, like the prevailing primary end of the given national economy which is determined by the actual socio-economic mentality.

Thus, for us almost any socio-economic natural law is only a static, ideal norm from which real life may deviate. So, for instance, the first law of Gossen is a norm or a certain natural law with a very high degree of probability. This norm is usually materialised in real life but still is not a genuine iron law. Sometimes it seems to work as a real iron principle when we have to do with desire for a material good, like wine. Yet, this norm is only a tendency of a very great probability because it can be entirely upset if the above-mentioned desire changes into a vice. Remember in this connection that degenerate wants are subject to the law of increasing marginal utility. The same will occur if any additional bottle of wine is not used for immediate consumption but bears a different label and is considered as a new increment of a valuable collection. Here again the law of diminish-

ing marginal utility will be replaced by its counterpart. It would be likewise wrong to assume that the law of increasing marginal utility is absolutely impregnable when one has to do with the desire for an immaterial good. There can be, for instance, an abnormal person who will be tired of acquiring an additional knowledge since he tends to be ignorant.

We are able now to sum up the theory of natural laws by reducing them to the following types :

1. Natural laws in a narrow sense as immutable iron principles which are very rare and extremely abstract. So, as a law of this kind can be considered, for instance, the principle of scarcity in the following formulation. "Any economizing individual acts under pressure of a relative scarcity of means." We assume here that scarcity as such is a logical category. Even from a genetic viewpoint, one can expect only that the process of economizing will be reduced to a comparatively insignificant activity but not that there will be no problem of an adjusting means to ends at all. A natural law of this kind represents a generalization which is based on a logical category and has a very abstract character.

2. Hypotheses of naturalistic or universal character which appear as normal tendencies or permanent norms. So, for instance, both laws of Gossen are a typical stable norm from which reality eventually deviates. Every norm of this kind possesses a high degree of universality. In such a case, however, the degree of abstraction is much less than in the first case.

3. Hypotheses almost naturalist in character which pertain exclusively to a socio-economic superstyle, like money exchange economy or barter economy. Such generalizations are ultimately based on at least one very simplified historical category. A good example of this kind of hypothesis is the statement that: "Effective supply tends to respond to effective demand and consequently to be in equilibrium with it." This generalization is of such a degree of abstraction that if we leave out the word "effective" it will become an absolute natural law, because even the supply of goods of which Robinson Crusoe disposes tends to be in equilibrium with his demand for them since the logical category opportunity costs stands behind any change in his supply.

An hypothesis of an almost naturalist character is, however, a controversial phenomenon. Should we be very precise we would have to admit that such a generalization which possesses a very high degree of abstraction does not belong to the realm of the natural laws because it is not based on a real logical category and consequently should not be assigned to full nomography—which, however, happens frequently. A by far more objection-

able procedure was for instance followed by quite a few Classical and Neo-classical economists who virtually identified money exchange economy with capitalism and considered this as an emanation of the natural order which is, in its turn, based on the natural laws.

The fact that almost any socio-economic generalization is only a tendency, although it is sometimes of a roughly universal nature, restricts much, even in principle, the applicability of a genuine mathematical method. Such a conclusion is unavoidable because as we have seen before in another context, every purely mathematical generalization or formula is ultimately based upon a fixed or static assumption. It is evident that a deduction made from a static premise can serve mostly but as an instrumental device. In general, a genuine mathematical approach fits well only each static picture because in such a case there is no necessity to develop a model which would have a higher degree of approximation to reality.

Even the now much discussed "econometric model" of Professor Leontieff is, according to his own statement, an ultimately static analysis which presupposes in a rather arbitrary way that all technical and natural conditions of production as well as tastes of consumers are distinct "data", which should not be considered as variables.

It is, however, important to note that there are at present three different approaches to the problem of the relation between economic theory and mathematics, namely :

1. Mathematical approach in a broader sense which represents simply quantitative thinking and is practically applied by any economist, at least in some degree, as long as he uses generalizations of a universal character, that is, when he develops full nomography. The works of Cassel, Schumpeter, Pareto, to name a few, are very typical of such a quantitative method. Sombart says correctly that quantitative thinking even when it is devoid of mathematical symbols implies necessarily that the method of natural sciences is applied to economic theory. For this reason, he suggests that such an approach be considered under the heading "natural—scientific" or "classifying" economics. On the other hand, Professor Mukerjee shows a tendency to treat this approach as "law-finding"—which is rather confusing. In the case of quantitative thinking, there is no reduction of economic theory to mathematics.

2. Mathematical economics in an intermediate sense. In such a case, there is still a distinct economic theory, which is, however, in a very large measure based on mathematical symbols and graphs, that are wrongly supposed to be a higher form of

exposition. Here the quantitative yardstick is used to the extreme as Theodore Brauer once said. Such an approach is now in vogue especially in the English speaking countries. Its typical representatives are Pigou, Hicks, Irving Fisher, Stigler, Boulding, etc. Von Stackelberg and Erich Schneider are the most typical representatives of this approach in Germany.

3. Mathematical economics in a narrower sense that transforms economic theory into higher mathematics which selects for its objective some economic problems. Here our science practically loses its own subject matter and is reduced to a subservient position of a distinct auxiliary discipline. Economic problems are in such a case hardly anything more than a special field to which mathematical research is applied. Typical representatives of this school are Edgeworth, Amoroso, Divisia, Tintner, etc. To it belong also some recent works of Stigler and Samuelson. This is especially true of the much discussed work of Professor Samuelson which appeared in 1947, under the title "Foundations of Economic Analysis." It is very consistent and instructive that this book was reviewed in the *Journal of Political Economy* (Vol. LVI, June, 1948) by L.J. Savage who declared that he comments on the mathematical aspects of the work though he is not conversant with economic theory. We agree with Henry Gradyson of Toronto that there is at present in some circles a wrong tendency to warp economic theory to suit the exigencies of mathematics. Also Stigler says correctly that the "mathematical economist" is under constant temptation to use mathematics just for the sake of using it.*

In the case of the first mathematical approach, economic theory is not entirely emancipated from natural sciences and ultimately employs their method. Only the extreme partisans of the historical nomothetic school, like, Professor Mukerjee, or Brauweiler reject any use of the natural-scientific research method in the field of economics. Its most influential members, however, in particular, Roscher and Sombart sometimes apply this method in their works and thus recognize the existence of full nomography. They are only reluctant to emphasize the usefulness of the natural-scientific method for economics which was so-much fostered still by Francis Bacon. On the other hand, any synthetic economist, like Vleugels does not hesitate to stress that economic theory cannot entirely emancipate itself from the natural sciences since the physical individual with his internal nature is one of the main economic subjects and because each static model of the national economy is a useful instrumental

* Professor M. Bronfenbrenner pointed out that econometricians prepare their models first and then look for fitting them to the data if there is time. After this is done the resulting ranges of error are sometimes too high to permit decision with any degree of confidence.

device of outstanding pedagogic importance. Of course, no synthetic economist will put such an emphasis on the natural-scientific method as his colleague who reduces economics to full nomography of Classical or modernized type. Yet, he stands in his methodology quite close to Aristotle who likewise rejected a complete negation of naturalism in respect to the social sciences.

One can reduce the natural-scientific method to the following propositions :

1. Every generalization, in particular, a hypothesis should be devoid of any subjective value judgment. Otherwise, it will not have a considerable degree of universality. In other words, its character must be of a purely logical and not of an emotional nature, although the possibility of doing this is denied by the representatives of a distinct idiographic train of ideas.

2. Any phenomenon should be reduced to the so-called "last element," like the electron in physics. Those economists who, like Pareto and Walras, are in favor of the application of quantitative full nomography reduce the whole complex economic life in the last analysis to a rather mechanical movement of goods in terms of prices treated as distinct quantities. This movement takes place within a system of interdependent variables and tends toward an equilibrium. Individual price is considered in such a case as a "last element" and the problem of the price formation almost absorbs the whole of economic theory. On the other hand, most institutional and especially synthetic economists reduce this mechanical movement of goods to the psychic experiences of an economizing individual (in the last analysis to his valuation) although they simultaneously emphasize that individual psychology is seriously influenced by the given socio-economic mentality.

A distinct elaboration of the "last element idea" is typical of the marginalistic approach when it is linked with full nomography because in such a case a marginalistic economist develops an analysis in terms of the subjective use value of the marginal unit of the given economic phenomenon. All the above-mentioned cases lead us to the conclusion that the last element idea and thus the natural-scientific method are practically applied by any economist who develops a nomography even if it is relative in character.

3. There is always a certain hierarchy of generalizations which have a universal character (norms) so that any separate hypothesis of this kind can be considered as a certain case within the given hierarchy and thus is subject to a definite classification. For instance, any law pertaining to marginal utility is but a case with regard to the main assumption that every economizing

individual estimates subjective use value of each good by bringing its subjective utility in relation to its quantity. The result of such an estimation can be however different because the given individual may care in this case for desirability, desiredness, etc.

4. Since the natural-scientific method aims at the classification of different phenomena it tends to measure them at least roughly and thus estimates them at their quantity instead of worth. This is the reason why our discipline easily attracts those scholars who are professional mathematicians, or have a distinct predilection for mathematics. This can be said, for instance, of Marshall, Wicksell, Jevons and Pareto. The latter two economists declared like Leonardo da Vinci in 16 century A.D. that any science which progresses develops as a quantitative analysis. Such a contention is, however, untenable because any progressing social science attains higher stages of the hierarchy of approximations and thus becomes more dynamic in its nature and less fit for the mathematical method. Yet, since economic theory has rather much to do with static models or static norms from which the real phenomena deviate it cannot underestimate the significance of the quantitative thinking. In addition, economic theory has to care for different ratios—which is correctly stressed by Lionel Robbins. Many categories, like economizing, money, prices, practically refer to some ratio or rather to some quantitative relation between, for instance, wants and goods, means of assignment and commodities, etc. Finally, the mutual interdependence system (even if it is somewhat fluid) presupposes the existence of a good many quantitative relations. In spite of all this, we have to be careful and must realize the danger of an excessive application of the mathematical method, including mere quantitative thinking. This is often neglected even by some outstanding economists, like Keynes, Pigou and Pareto. The reasons for such a warning can be summed up as follows :

1. No interaction of quantities should be taken very mechanically by an economist because the quantities with which he deals are comparatively independent phenomena. If, for instance, the general price level is doubled it does not imply that the prices of all goods will rise equally. Some among them may not rise at all because any general price index, acting as an "index unique" takes into account only the price movement relating to a few selected data. Thus, a purely logical analysis will have to solve the problem in each concrete case.

2. In the field of social sciences two related phenomena are in a certain measure both cause and effect—which is correctly stressed by MacIver. There is poverty because wages are low in the short run but they are low because there is poverty in the long run. Since the determination is in a sense reciprocal and complex, no socio-economic phenomenon can be interpreted in

terms of a simple mathematical causation. This refutes the contention of A. de Pietri-Tonelli that interdependence of two phenomena can be analyzed only in a mathematical way.

3. It is certainly true that any static picture of economic life is fit for quantitative analysis. Yet, an economist should never forget that even under imaginary stationary conditions, there is a certain amount of rather hidden production relations among people behind any movement of goods, that no movement of commodities can take place unless there is a valuation of the respective goods and that any economic activity even if it is of a purely psychological nature presupposes the existence of a definite institutional environment.

4. Any economist who reduces even a static model of economic life to a mere interaction of quantities runs a risk of seeing the details but of missing the whole.

We turn now to a brief criticism of mathematical economics in the intermediate sense. Here we can refer to Alfred Marshall who was originally a professor of mathematics and made some contributions himself to a purely mathematical interpretation of economic phenomena through an extensive application of different mathematical symbols. Marshall's criticism can be summed up as follows :

1. It is an exaggeration when an academic economist does not give all outlines of his theory in an ordinary language. Even in the case of quantitative thinking, no economist should use mathematical symbols except in separate appendices, provided that they are necessary for his personal consummation. In general, it is unreasonable to read lengthy translations of economic doctrines into mathematics. This advice of Marshall was distinctly followed by von Stackelberg and Erich Kosiol when they developed their essays on the theory of costs.*

2. There are only a few economic problems which really depend upon mathematical devices, like, insurance, stock exchange transections, definition of monopoly price, etc. Yet, even in such cases most phenomena can be largely analyzed in a "literary" way. This fact was recently admitted also by Samuelson who said that even "Euler's theorem" on homogeneous functions could be proved in a non-mathematical way. Both Marshall and Schumpeter showed an increasing reluctance to use mathematical symbols in economic theory toward the end of their academic careers.

* There is at present tendency to disregard Marshall's suggestion. So recently Stigler put down Bohm-Bawerk's theory of production in a complete mathematical form while Ragnar Trisch did the same with regard to Wicksell's theory of capital.

We agree with Boulding that mathematics cannot be considered as a real language even of an esoteric kind as is, for instance, assumed by Liefmann and J.M. Clark because it is not true that all "literary" expressions can be translated into mathematical symbols so that mathematics is only a "Jargon" which enables us to talk about certain things but not about everything. Also Fritz Machlup contends that there are some things which ought to be said in words.

We have already seen that a closer approximation to economic reality lifts any analyzed socio-economic phenomenon to a higher level of the respective scale of hypotheses and thus emancipates it in large measure from a dehumanized exact quantitative thinking. The deeper the socio-economic scientific analysis becomes, the more it takes into account all adjacent problems of sociology, psychology and ecology without, however, advocating a complete fusion between them because economics has its own very distinct objective and never can entirely avoid a certain amount of quantitative thinking or a certain materialistic leaning since both of these characteristics are due to the ontological principle of economic activity, namely, to that of scarcity. Still on the whole, one must share the opinion of John S. Mill, Marshall, Spann, etc. that a really advanced economist should turn himself into a multiple-social-scientist by acquiring the rudiments of the several related disciplines.

Especially wrong is, however, the contention of some mathematical economists that their symbols are superior to a literary mode of exposition. So, for instance, Henry Bloch in his article dedicated to the memory of Gaetan Pirou (*The American Economic Review*, March, 1947) wrote: "Pirou probably considered his general works on theory and method the most important ones but the trend of the times toward the mathematical approach in economic theory left his efforts in general theory somewhat behind the pace of modern analysis." Such a contention is very fallacious because a blind adjustment of one's scientific research to a fashion which is supposed to be the "trend" is not a merit for a real scholar.* In this connection should be mentioned also a rather strange contention of Professor Boulding that today there are no non-mathematical economists but only those whose principle tool is either algebra or geometry. In his over-statement, he goes so far as to overlook the fact that an economist of today can eventually carry out a lot of quantitative thinking by using purely arithmetical numerical examples as this was practised for instance by Karl Menger and Bohm-Bawark. Boulding's respect

* It is amazing that Paul Samuelson assumed responsibility for the following statement:

"Fashion always plays an important role in economic science; new concepts become the mode and then are passe."

for mathematics induces him to make another odd statement, that mathematics and logic are synonymous while a literary judgment is simply an "insight" so that such a judgment seems to be according to him devoid of logic unless it assumes a mathematical form. All this is simply amazing if one takes into consideration that Boulding himself admits that the mathematical approach distracts attention from the actual complexity of the internal structure of the socio-economic variables and hence is likely to lead to error in the many cases where this structure is important.

The history of nomology refutes the statement of mathematical economists that "mathematical language" which is so typical of the shorthand pragmatism congenial to the epoch of the mass production is a superior mode of exposition. So, until now, we consider Plato as the real founder of "theory" although Pythagoras long before him shaped the idea of idea as figure. There was, however, no chance for humanity to develop a genuine nomography in the field of social sciences before Plato raised the idea of idea to its present literary form in spite of the fact that the same Plato said once "God geometrizes." To convert "literary" economic theory based on logic (to use Pareto's terminology) into mathematical economics means from the genetic viewpoint to advocate a backward step. This implies that the recent expansion of mathematical economics is not a trend which has to symbolize evolution but a temporary fashion, provoked by an excessive admiration for quantitative results of modern materialistic civilization.

In addition, economic theory is already too far developed to be only a research field for mathematics which uses economic phenomena as material for displaying its own potentialities. The blending of mathematics with economics should be undesirable even from the standpoint of the pure mathematicians themselves because it would mean a certain backward development of their own subject.

We can find again a good example in the general history of science. If we take, for instance, statistics (that is, another methodological discipline) which is likewise devoid of any own direct object and teaches a certain peculiar method of scientific research, we can easily say that it did not make real progress as a tool of nomography as long as it remained blended with political science under the heading "political arithmetic." Only the separation of statistics from political science removed its previous mainly descriptive character and raised it to the level of an advanced methodological discipline fit for a serious nomothetic research, that is for the law finding. Those economists who use the pure mathematical method in an excessive way excuse this by saying sometimes that such a method permits a more concrete

analysis. In our opinion, this contention is wrong because the above-mentioned method is unable to make more concrete the process of theorizing as such or to do this in respect to a given hypothesis which will be only presented in another form or "dress". Such a method may at the most lead to a more concrete analysis of a phenomenon that is considered under strictly fixed assumptions—which already implies a great natural limitation of mathematical economics. The Russian economist and philosopher Serge Bulgakov said once that the purely mathematical approach transforms economic theory into a "play of a philosophically undisciplined mind", while the French economist Bertrand Nogaro who is in principle not opposed to mathematicians, stresses that mathematics can serve economic theory only as an auxiliary abstract reasoning. The same can be said of Joe Bain who once remarked that after all economics really deals with human beings and physical things but not with mathematical symbols. A very good remark was recently made also by Jacob Viner who declared that the inferiority complex which "practitioners of social sciences had in the 18th century towards mathematics has been reacquired by quite a few economists of our time.*

At present economic theory sometimes uses statistics as an instrumental device apt to gain some empirical stochastic generalizations showing a different degree of probability. In such a case a peculiar relative nomography arises which is closely linked with quantitative thinking. The question of how far and in what sense the statistical method should be applied by economic theory is again a very controversial problem. We agree with Leopold von Wiese that the presence of a good many controversial issues in economics, as in any other social science should be recognised by us as a rather positive fact. There are two reasons for such a conclusion, namely :

1. The presence of controversial issues proves that economics grows as a separate social science. There is no evolution unless there is a certain dialectical development because there can be no synthesis unless there is an antithesis which could be reconciled. Growth in general means a lasting overcoming of obstacles, that is, of controversial issues. Only a complete stagnating phenomenon is in a real equilibrium.

2. Even if there is only one truth, there are different roads to it. Sometimes the opposite ways seem to exclude each other. In reality, however, they supplement each other because the given phenomenon can be observed from different angles.

* It is also necessary to take into account the fact that the supposed exactness of econometrics is impaired by the impossibility to include all possible strategic variables in one's equations—which is correctly stressed by Bronfenbrenner.

Even the sun is seen simultaneously in different real forms at different points of the globe. A new born baby which sees the sun during the process of setting knows as much about it as another newly born child which happens to witness the break of the day. Therefore we cannot be surprised that there are different interpretations also of the relationship between economic theory and statistics. We have to distinguish between at least the following two approaches :

1. All those economists who represent *statistical nomography* in a narrower sense, like, Alexander Chuprov, Jr., William Lexis, Jacques Rueff, Sir Josiah Stamp, Henry Moore, etc. consider statistics as the only truly scientific method of nomothetic research. For them the law of great numbers is the fundamental principle. The best formulation of this law reads as follows : "the greater the amount of observations, the greater is the chance that the mathematical probability of the investigated phenomenon will be very close to its empirical occurrence." One can also say that this law implies that the greater the number of observations, the less the analyzed dynamic phenomenon deviates from its ideal static norm. However, this does not imply that the static norm is the absolute reality. So a larger amount of observations will show that marginal firms are more numerous than they are supposed to be but not that any firm is marginal. Any "stochastic" law, to use D. Bernoulli's terminology, shows the relation of probability and not of causality. All those economists who are statistically minded and have simultaneously a high respect for nomography use statistics as an *a priori* method. For them the co-efficients of correlation and regression, especially those of a developed multiple nature represent an exact method of forecasting. In addition they attribute a great importance to the so-called "mathematical expectations" of various economic phenomena. For instance, according to Chuprov Jr., the market value of a good is the mathematical expectation of its price. This approach is consistent and logically admissible, yet, it largely reduces economic theory to a sort of business forecasting.

On the other hand, the *a posteriori* wing of statistical nomography represented, for instance, by Struve and Simiand in their later works has much less importance. For an economist of such leanings, the stochastic hypotheses are not a tool of forecasting. On the contrary, they simply represent an empirical conclusion drawn from a series of registered data. For instance, Struve does not care for the category value, in particular, exchange value, because for him the market value of a good is determined *a posteriori* by the most representative realized price of the given good in the given period, *i.e.*, by the mode. Since such a generalization has a very conditional character and should not be used, according to Struve, as a tool of forecasting, its usefulness is very

questionable. Roughly speaking, the *a posteriori* faction of statistical nomography reduces economic theory to a descriptive economic history based on statistical research. All this implies that statistical nomography in the strict sense is very far from being uniform.

2. Almost all representatives of relative nomography of historical nature, synthetic economists, (except a few, like Francis Perroux) and some representatives of full nomography, like Pareto, consider statistics only as an important supplementary method of nomothetic research. There are, however, also in this case two different approaches, namely :

(a) Some partisans of full nomography, such as Cassel and Pareto, show a distinct preference for a certain functional interpretation of the socio-economic phenomena and maintain that it is better to take for the starting point variables and functions instead of causes and effects. Of course, any functional relation of this kind is in a sense "casual"; yet, causality is here conditional and for this reason is largely based on probability. A distinct mathematical analysis is practically transformed into a statistical nomography as soon as it begins to interpret function as a highly changeable relation and starts to investigate at once several statistically gained variables by introducing a series of simultaneous equations instead of trying to find out how one given quantity responds to a definite change of another quantity. It is evident that in such a case no variable should be considered as fundamentally given or constant. Pareto does not hesitate to recommend a frequent use of statistical co-efficients of correlation and especially of regression as a tool of nomography in economic science.

(b) Almost any representative of relative nomography of historical leaning (including synthetic economists) recognizes the usefulness of statistics as a tool of nomothetic research in a direct or in an indirect sense. According to him the statistical method is directly useful when it develops stochastic empirical generalizations provided however that the investigated frequencies treated as samples distinctly pertain to the same socio-economic style and is indirectly useful if it helps to verify the analytical generalizations gained by means of a cognitive, *i.e.* historic-ecological deduction.

There is no doubt that statistics is a very important tool of nomographic research but its excessive application especially in a complex mathematical way or its overestimation which is so typical of any representative of statistical nomography should be avoided. The best criticism of this kind of relative nomography was given by the French economist Albert Aftalion. We can reduce his criticism to the following propositions :

1. It is true that economics deals with aggregates and mass actions fit for statistics. Since an economizing individual is in principle a rational being his actions can be determined in a stochastic way through regular mass observation. Yet, most socio-economic phenomena are extremely dynamic and are in part qualitative. One can, for instance, statistically prove that under normal capitalistic conditions a decrease in the rate of interest decreases man's propensity to invest; yet, one cannot predict that something like this will be the case even in a short run because this empirical norm will become invalid as soon as the given country begins to enjoy a comparatively high degree of political security. At least foreign funds will be attracted by such a development. Consequently, statistics cannot explain the investigated phenomena or predict them unless it is supplemented by a purely analytical interpretation of cognitive nature. This is the position also of Eugene Altschul.

2. Very often there is no motive to start a statistical research before economic theory develops an hypothesis and thus draws the attention of a statistician to the respective phenomenon.

Just the same idea is stressed by Pirou, Walter Eucken and Tugwell. All these economists point out that the statistical method in economics almost exclusively verifies the truth of generalizations previously made by means of deduction. Even such a contention should be made cautiously, because no theory can literally be proved by empirical studies. At least, there may be mutual accidental offsets; that is, an error in the logic may be offset by a difference between the conditions and the assumptions of the theory—which is correctly emphasized by John Due.

3. A statistical co-efficient shows often only a certain co-variation but not a direct relationship. It can, for instance, happen that under gold currency conditions there will be a close statistical correlation between low wages in France and the high general price level in terms of gold in America. Yet, there will not be necessarily a casual relation between these two phenomena. Such a relationship might occur only if the both countries have a gold currency while France as a debtor nation experiences an adverse balance of payment. Also here, however, the relationship under discussion will be rather indirect. Besides sometimes, a positive statistical co-efficient may simply imply a coincidence.

4. One must realize that stochastic empirical generalizations are of no use to a theorist who tends to develop some laws which should have a high degree of universality and abstractness because the former laws are necessarily ecological and defined in time. So, for instance, Henry Moore used the statistical method in order to prove that wages are determined by marginal productivity of labor while Simiand employed the same method in order

to show that there is no connection between productivity and wages. Both of them skillfully established their cases. Yet, they were fundamentally wrong because they attempted to confirm or to repudiate a norm possessing a very high degree of universality by using a method which is fit only for a relative nomography. Schumpeter rightfully stresses that even a mere ideological appeal of a proposition from the standpoint of the given writer produces the above-mentioned situation in which two statistical economists draw opposite inferences from the same figures. It should be stressed in addition that a highly mathematical econometric technique does not guarantee that the actual results of the statistical research will be positive. So Arthur Burns points out correctly that Henry Moore's elaborate mathematical techniques did not prevent his results from being challenged by later research concerning the cyclical process of economic life.

Thus, our final conclusion is that any quantitative method of nomothetic research makes no sense in the field of economics unless the generalizations which it develops get a sanction from an analytically minded "literary" theorist and take a proper place assigned to them by his cognitive interpretation. In particular, statistics cannot be more than a supplementary verificative device of nomographic nature if one wants to get a generalization with a considerable degree of universality.

Any advanced cognitive interpretation of the socio-economic phenomena is not only ecological and defined in time (like statistics) but also "style-bound", that is, tries to "comprehend" the given phenomenon by analyzing it in terms of the respective socio-economic order and with regard to the given market structure. The cognitive or if we use Sorokin's term, the "logical-meaningful" method of nomothetic research was first developed by some European social philosophers, historians and psychologists, like Vico, Rickert, William Dilthey, etc. The older German historical school, in particular, Hildebrand introduced this method into economics but it found a wide application in the field of sociology and economic theory only in our day, thanks to the works of Sombart, Max Weber, Max Scheler, and Frederick von Grotl. At present this method is used in our discipline as a relative nomography which develops generalizations of a complex nature because they are simultaneously ecological, time defined, socio-psychological and institutional in their essence. It occurs, however, extremely seldom that the cognitive approach is declared to be in principle the sole nomothetic method which should be used by economics. Even the leading representatives of this school, like Sombart and Max Weber in their works do not discard full nomography. On the other hand, any purely synthetic

economist, like Spiethoff maintains that the cognitive approach is superior to any other nomothetic device only because it is the sole scientific method that enables an economist to move toward a far-reaching comprehension of complex and dynamic socio-economic life as soon as he attains the higher stages of the scale of approximations to reality.

Before we turn to the discussion of the methodological synthetic scale of approximations it would be rather desirable to clarify the essence of the cognitive, *i.e.*, "understanding" approach. Its essence can be reduced to the following propositions :

1. In contradistinction to a purely classifying and quantitative method which is borrowed from the natural sciences the cognitive method is a creation and a tool of social sciences. For this reason Sombart defines such a method of nomothetic research as the "social-scientific" approach.

2. Any natural phenomenon, like the fragrance of a rose, belongs to the world of miracles. One can describe and classify it but one cannot explain such a phenomenon in an exact way. Even an intuition that sometimes helps us to grasp at least logically the essence of a natural phenomenon and which is advocated, for instance, by Spann cannot enable us to explain why a rose gives an aroma in one and not in another way. On the contrary, every producer of a perfume can exactly explain why his product smells in a certain way. Consequently, that latter kind of an aroma can be exactly "comprehended." Sombart says correctly under Kant's influence that we normally understand in an exact way only what is man-made. As to the real socio-economic phenomena they can be comprehended only when they are interpreted in terms of the given socio-economic style. An economist will never be misled by a term if he observes the so-called "sense-relationship by style." So, for instance, an economist versed in cognitive and thus genetic method will never identify the banks of ancient Greece with our modern credit institutions, or the Soviet collective farms with the agricultural cooperative establishments which function under capitalism.

3. Since the cognitive method in economics is based on the idea of a sense relationship by style, it facilitates an immanent criticism of any socio-economic phenomenon and thus removes any tendency to introduce a direct subjective value judgment.

The hierarchy of socio-economic laws in its most advanced form has a definite structure, no matter if it is aware of our distinction between economic theory and economic sociology or not. We shall, however, observe this difference (that is, "methodological dichotomy") which is especially cultivated by Leopold

von Wiese and is applied in American economic literature, in particular by Commons and Fetter. The scheme pertaining to the hierarchy of socio-economic generalizations and developed from the lower or simpler stages of the respective scale of approximations is composed as follows :

1. *Theory of generalizations based on logical categories*, that is genuine full nomography. This theory can analyze virtually only the economic activity of an isolated individual. In this case, economics is entirely devoid of sociological problems because there is no economy in the sense of an economizing social structure. Consequently, man is here considered as a rational being, but not as a "homo socialist." The main problems in such a case are valuation and the balancing of labor costs. Theory of this kind has the highest degree of abstraction but still remains in principle realistic, not only because there can be an eventual "Robinson Crusoe" but also because an economizing and consuming individual who acts within an economy behaves, at least when he evaluates goods, as if he were an independent person. Also, a small farmer in a remote region can be almost self-contained and may consider his productive activity largely in terms of his own efforts conceived as opportunity costs.

This first step of the methodological scale of approximations which in von Wieser's terminology symbolizes the method of decreasing abstraction is, however, less realistic than appears at the first glance because a pure consumer under modern conditions is constantly influenced by his socio-economic environment even if he believes himself to be completely independent. Of course, such an individual develops a very subjective scale of preferences but this scale might have another shape if he lived outside of any socio-economic structure. For instance, his evaluation of the goods would not be affected in this latter case by the purchasing power of money, market values, fashion, etc. Also, a largely self-sufficient farmer becomes seriously involved in an eventual exchange and thus is induced to evaluate the goods and his own efforts in terms of a derived subjective use value. All these institutional influences should be, however, in principle disregarded by the first stage of our methodological scheme. Only when this stage is integrated into a course in economic theory, the above-mentioned influences must be considered as a certain detail. In addition, one practically cannot reduce economics to an analysis of the economic activity of an isolated individual since in our time the national economy as a whole is one of the main economic subjects.

2. *The Theory of socio-economic superstructure*, like barter economy versus money exchange economy or centrally directed economy versus free exchange economy. In this case, there is

already a relative nomography but generalizations are nearly universal. Such generalizations are based on the categories defined as "ideal types." The degree of abstraction depends upon how far these types are simplified. There is no unanimity in this respect. The term was made known by Max Weber who declares that any ideal type is in a sense utopia because the characteristics of the respective phenomenon are on purpose exaggerated and the "type" is but a certain imaginary norm which serves as a tool of comparison. Sombart, and most synthetic economists, like Spiethoff and ourselves refute this position by maintaining that any ideal type pertaining to a superstyle should be empirically gained by means of a historical observation and induction. In this latter case, an ideal type is not a pure fiction and not a photography but a very simplified reality. Perhaps even the theory of somewhat distorted total equilibrium system belongs, in a sense, to this stage of economic analysis. Besides it is correct to develop in such a case an abstract theory of market structures, like monopoly, oligopoly, etc. It should be noted that the theory of the economic superstructure takes into account our distinction between an economic phenomenon as such and its social background. Only in this case economic sociology will have a restricted importance because the human relations in the economic sphere can hardly stand a very high degree of simplification since they are largely "style-bound."

Both of the first stages of the methodological scale of approximations are only a preparatory device which is, however, of a great pedagogic value.

3. *The theory of different socio-economic orders (or styles).* In this case, there is again a relative nomography based on ideal types. Yet, the degree of abstraction is here much lower. It becomes, for instance, impossible to treat together capitalism and a politicized money exchange economy of a modern totalitarian state although they may have quite a few basic economic phenomena in common. Economic sociology and social psychology as applied to economics are here of major significance. The generalizations arrived at are already distinctly style-bound. It is for instance impossible to agree with Walter Eucken that a market-form like monopoly does not somewhat change its character in two different socio-economic orders. The main work of Ricardo and that of Marx entitled "capital" belong ultimately to this type of nomography since they attempt to discover the essence of a purely acquisitive economy. Marx himself speaks in this connection of a physiology of capitalistic economy.

4. *The perspective theory of different socio-economic styles.* Such a theory has the highest possible degree of approximation to reality because it analyzes separately any distinct phase (or

genetic stage) of the given socio-economic style. Thus, here economics is necessarily dynamic and in part genetic although the theory of evolution should stay in the background. A genuine economic history profits by this stage of economic theory while economic sociology attains on it a high degree of maturity.

An economist may proceed on this stage of our scale in two different ways, namely :

(a) He may analyze a phase of the given socio-economic order (*e.g.*, financial and administrative capitalism) as a certain ideal type—as did Sombart and Veblen.

(b) He may analyze a certain socio-economic event in a given place and at a given time from the standpoint of the actual phase of the given socio-economic style. Eventually he may proceed like Walter Eucken and consider the given socio-economic milieu as a certain combination of “superstructures” (*e.g.*, mixture of the free economy with state planning) and of market-forms without any reference to the socio-economic style, that is, in a purely non-genetic way.

All this implies that the last stage of our methodological scheme is closely linked with economic history and with the preceding third stage in a certain complex way. So, for instance, a Soviet economist who analyzes at present early state socialism will be in the future considered as a representative of the fourth and not of the third stage of our scheme. On the other hand, nomography of capitalism is now more and more treated from the standpoint of the fourth stage. In addition, it should be noted that the synthetic methodological scheme has a certain Spencerian tinge because it represents a development from the simple to the more complex.

The application of such a scheme, which in Gruchy's terminology applies a “summative method” of analysis, can be easily demonstrated if one uses price formation as an example. The first or early stage simply cannot touch the problem of price formation because without genuine exchange there is no price. The theory of the superstyle conceived as that of a money exchange economy can already discuss such a problem by introducing, for instance, the idea of an equilibrium price which checks the effective demand because otherwise the given effective supply would be comparatively insufficient. Since any capitalistic and planned money exchange economy functions under the pressure of the principle of scarcity such a price theory is distinctly valuable. The theory of the socio-economic orders analyzes price formation separately for every socio-economic style since

there is a distinct difference between formation of a free market price under capitalistic pure competition and a regular authoritarian decreeing of a fixed price under socialism even if in both cases the price is expected to perform just the same function of adjusting effective demand to effective supply.

The last stage of our scheme analyzes price formation separately for each successive phase of any socio-economic order; up to the present this is done practically only with regard to capitalism. For instance, under conditions of organizational capitalism to use Calvin Hoover's terminology, there are some rather new modes of price formation like those applied by an organized oligopoly or by impure competition of polipolistic nature. This results in some additions to previous traditional price theory as were made, for instance, by Joe Bain, von Stackelberg and Chamberlin. Yet, some peculiarities of the price system and especially of wage formation in our present phase of capitalism are still more conspicuous if one treats this problem from the standpoint of economic sociology. Besides, the last stage of our methodological scheme of approximations can bring the analysis so close to reality that the respective generalizations will obtain a very great degree of exactness both from ecological and temporal standpoints. One can, for instance, analyze the price formation on the fur market in St. Louis in January, 1955. In addition, some important generalizations of a rather localized character could be gained and used as a conditional tool for forecasting the next short run development.*

The synthetic methodological scheme is not only instructive; it is simultaneously encouraging because it proves that economic theory offers an extensive research field to almost everybody whether he shows a predilection for abstract static designs or, on the contrary, is interested in rather dynamic primarily sociological and historical problems. There would be no major feud in our discipline if every economist realized that the most abstract nomography which applies the natural-scientific method and the cognitive, that is, a more dynamic and genetic analysis do not exclude each other but on the contrary supplement and clarify each other. One cannot understand or rather "comprehend" change unless one has some idea of what rest means; just as it is impossible to define darkness as long as one has no idea of light. The famous controversy between Karl Menger who cared only for the first two stages of our methodological scheme with Gustav Schmoller who concentrated on its two last

* It is good to remember in this connection that according to Brij Narain most Indian economists are just in favor of this last stage of methodological scheme of approximations because they like to treat Economics as an intensely practical study.

stages was in the last analysis unnecessary because both of them were one-sided by selecting the opposite extremes. Roughly speaking, Menger reduced economic theory to a discipline with a less realistic and cultural foundation than it ought to have while Schmoller made it less theoretically profound and simultaneously foresook an invaluable pedagogical tool. Thus, synthetic approach which considers Menger and Schmoller as economists who supplement each other solves the "Great Antinomy" of economics, should we use Walter Eucken's terminology.

Since the synthetic methodological scheme of approximations develops from a full nomography to a dynamic relative nomography of socio-economic styles, the hypotheses of cognitive nature do not absorb the entire field of economic theory but only serve to approach reality. This is the reason why the above-mentioned hypotheses occupy a place on the higher steps of the methodological ladder.

The modern synthetic school is not a completely uniform movement which is, however, the case also with regard to any other approach in economics. Nevertheless, its teaching can be reduced to the following fundamental propositions :

1. A genuine economic synthesis combines the natural-scientific method which is simplifying and classifying with the social-scientific or cognitive method. In addition, it uses statistics as a supplementary tool for verification and illustration of non-universal generalizations. Thus, this school of thought is really "synthetic" but not eclectic because it rationally attempts to bring about a synthesis between full nomography and relative nomography. Sometimes the term synthesis is misapplied in economics. So, for instance, Henry Moore has published a book entitled "synthetic economics." In reality, however, Moore's work represents a typical statistical nomography, a *priori* in character. The reason why Moore considered his approach as "synthetic" is, however, in a sense logical; he tried to prove statistically that the main propositions of the marginalistic train of ideas are correct. In other words, he made a certain attempt to combine full nomography with a quantitative relative nomography. Yet, we know already that it is in principle wrong to confirm the hypotheses which have a universalistic character (*i.e.*, natural laws) by using stochastic method, that fits only a distinct relative nomography.

Agreement with Professor Hayek is still more difficult in that his approach which is based on the assumption that man's judgment is subjective represents a synthetic viewpoint. He tries to prove that there is a certain close relation between the given socio-economic structures and the economist who analyzes them because

such structures are according to him a product of man's mind. Such a contention is unacceptable, not only because a socio-economic structure is by no means a fiction (*i.e.*, a pure mental reaction on things) but also because one could speak in this case at the most of a certain interaction which does not imply a synthesis. The famous philosophic contention stressed by Schelling that there is a certain "identity" between the analyst and the object on which he passes judgement is much closer to Sombart's contention that man can comprehend only those things which he has made. Roughly speaking, Hayek's approach is atomistic and nominalistic without being really synthetic.

2. A genuine economic synthesis is based on a distinctly synthetic methodological scale of approximations which develops a hierarchy of the socio-economic generalizations and simultaneously combines statics with dynamics. When this scheme is fully developed, it follows the recommendations of Leopold von Wiese and observes the principle of methodological dichotomy, that is, makes a distinction between purely economic and semi-sociological problems.

3. Any synthetic economist uses the method of understanding in respect to the socio-economic phenomena in two different ways. Either such an "understanding" is simply a logical analysis of an abstract nature or it is really a cognitive interpretation of the given phenomenon. So, for instance, when an action is observed which looks like an exchange, the first kind of analysis will show whether this action is a game or an economic activity. On the other hand, only the cognitive method can explain to us whether the given action is in principle purely commercial or is determined by a social or even a ritualistic motivation. Both forms of understanding are quite unavoidable as soon as an economic action develops in a distinct social environment. A genetic interpretation of the given phenomenon is often important because any socio-economic structure (especially a superstructure like the national economy) not only comprises some "constituents" or co-existent parts (as Hayek assumes) but simultaneously represents a certain consecutive stage of an evolutionary process.

4. Any real economic synthesis stresses the importance of a logical cognitive judgment but is devoid of ethical content which is reserved for a separate theory of economic policy.

The most advanced synthetic school of thought in the field of economics could be defined as the "Bonn-school" because its major representatives, namely Arthur Spiethoff and William Vleugels were connected with Bonn-University in Western Germany. This school had a certain relation with the French

synthetic movement in Paris, represented especially by Gaetan Pirou and Francois Perroux. Apart from this main network there were still some influential synthetic currents in the United States and in Soviet Russia. The "synthesis" can be represented by means of the following scheme :

- | | |
|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| I. Scale of approximations which combines statics and dynamics/J. B. Clark, F. von Wieser, Schumpeter/. | Synthetic methodological scale |
| II. Social-scientific (<i>i.e.</i> cognitive) method/W. Sombart, Max Weber/. | of approximations, which re- |
| III. Methodological dualism which distinguishes between economic theory and economic sociology/Leopold von Wiese. | presents a hierarchy of socio- |
| IV. Ethics as a separate theory of economic policy/F. von Wieser/. | economic generalizations with a decreasing degree of abstraction. |

Outside of this scheme there stand some American economists of synthetic inclination like, Frank Knight, John R. Commons, and John M. Clark.

It is significant that the synthetic approach enjoys at present quite a remarkable expansion, which moves, however, in two opposite directions in respect to the cognitive method. Thus, Schumpeter who was originally in favor of a high degree of abstraction showed since 1939 a distinct interest in a theory of historical generalizations. On the other hand, the Soviet economists who since Lenin's victory rejected any full nomography and applied exclusively the categories of ecological and historical nature have begun since 1944 to talk about natural laws in a narrower sense. They do not hesitate now to declare that rationality and "economic necessity" (that is, limitations imposed by nature) will continue to exist under socialism. This is, however, a more Marxian standpoint than that advocated by them before because Marx himself admitted that no natural laws can be done away with. What can change in the changeable historical circumstances is the form in which these laws operate. Nevertheless, a genetic theory of the socio-economic styles which is defined by Lenin as "the science of the developing historical systems of social production" still remains the main concern of the Soviet economists so that, for instance, nomography of capitalism is taught as part of a course in general economic history which is supposed to uncover the exploitative nature of

class relations. This however enables a Soviet economist to admit that capitalistic socio-economic style was not always an obsolete form of the social organization and that socialism has something in common with the capitalistic past.

The economic laws or rather the socio-economic generalizations on which the synthetic approach is built are tripartite, namely : naturalistic (normal), historic of mostly genetic bias, and eventually some stochastic generalizations. The same "nomological trio" we find in the last Schumpeter's approach although in a somewhat different way especially because he speaks exclusively of "variables" as if he neglected hypotheses of universal nature based on logical categories for which he cared so much before. As already mentioned, Schumpeter became more and more historically minded. In his comparatively recent book on business cycles, he went so far as to declare that theory merely supplies tools and schemata for a history of economic process and repeated the famous Sombart's dictum that without history any theoretical analysis is empty while history without theory is blind. The last sentence means that without the help of theoretical deduction, the historical method can only accumulate a mass of unconnected and unserviceable facts. In his last theory of laws, Schumpeter makes a distinction between the three following kinds of "variables."

1. Theoretical variables which stand in a functional (practically a causal) relation. These variables are nothing but theoretical norms and equilibrium phenomena. They are not based on historical categories although they are changeable in a certain sense. Namely, each theoretical norm pertains to a certain provisional static system of equilibrated quantities which cannot be exactly perceived. Practically Schumpeter in this case comes close to our idea that any static norm, like, the marginal firm as a distinct equilibrium firm remains permanent although its representatives (*i.e.*, its bearers) change.

2. Statistical variables which deviate from the given theoretical ultimately static norms and are themselves random phenomena. Their cause is the impossibility of making a close observation while their result is a certain random picture. These variables differ much from Chuprov's stochastic hypotheses which are based on the idea of probability and thus serve forecasting. Schumpeter is in general against statistical nomography, although he welcomes statistics as an eventual means of approaching reality.

3. Historical variables which are real variables since they are subject to evolution. Their theoretical norms or categories on which they are based experience a process of change. These

variables deviate from their norms not because there is a deficient observation but because economic life is itself extremely dynamic.

Walter Eucken whose methodological work published in 1940 exercises a considerable influence in Europe and was recently translated into English has something in common with synthetic school although in reality he does not present a synthesis. He attaches a particular attention to the theory of superstructure (including an abstract theory of market forms), does not reject "Robinson model" and wants to use both initial stages of our methodological scheme as an instrumental device to interpret economic reality. Yet, Eucken rejects the concept of the socio-economic style and thus cognitive interpretation since for him any socio-economic order is but a combination of roughly permanent "basic pure forms." So the given economic order may, according to him, present a certain combination between competition, authoritarian planning, monopolistic elements, etc. In other words, he does not accept the third stage of the methodological scheme and admits its fourth stage only provided that it is devoid of any genetic element. We think that such a standpoint is too narrow and may create a lot of confusion because any abstract superstructure (like *e.g.* money economy) and any abstract market structure (like *e.g.* oligopoly) somewhat change their character (at least their purposeful meaning) if they appear under for instance socialism instead of being an institution within a purely acquisitive economy. If one wants to be very exact, one must admit that Eucken believes only in a roughly full nomography because even any historical case is interpreted by him exclusively in terms of "ideal types" so that there is—according to him—no historical generalization, and a certain institution (*e.g.* gold standard system) is under the analyzed conditions either "relevant" (*i.e.* present) or "basically true" (*i.e.* latent). All this implies that Walter Eucken is distinctly against historical (relative) nomography and thus hostile to the cognitive interpretation of economic reality.

We turn now to the important but extremely controversial problem how far and if altogether a subjective value judgment can be used by an academic economist. This problem would not be as controversial as it is if everybody realized the following two facts :

1. That the relation between economics and ethics is not the same as the relation between economic activity and ethics.
2. That a distinction should be made between a subjective ethical judgment and a logical judgment with a slightly subjective

tinge. In other words, we have to distinguish strictly between the following kinds of subjective value judgment :

(1). *Ethical* (i.e. direct) value judgment which in its turn should be subdivided as follows :

- (a) Implicit
- (b) Superficial
- (c) Separate

The best example for the first case are the works of St. Thomas Aquinas, Julius Kautz and J. Vialatoux. Also Schmoller and John A. Hobson could be mentioned in this connection. The second case is represented by the works of the classical economists and by those of Peter Struve. The methodology of von Wieser, Vleugels and Emanuel Vogel is typical of the last approach.

(2) *Logical* (or indirect) judgment of a slightly subjective nature which again may appear in different ways, namely, it can be :

- (a) Organic (e.g. Spann)
- (b) Functional in a broader sense (e.g., Albert Wolfe)
- (c) Cognitive (e.g., Sombart).

According to the implicit ethical approach which is normative and whose typical representative is St. Thomas, any socio-economic phenomenon should be based on justice and judged by every economist accordingly. Kautz who wrote in the middle of the 19th century and Vialatoux in our time went so far in this direction that they did not hesitate to declare that economics should develop as a "logic of justice" and a distinct moral discipline. Also Professor Hawtrey said once that "economics can not be dissociated from ethics." It is evident that such a teaching which can be traced back to Aristotle is very attractive but extremely controversial. The main difficulty is caused by the fact that there is no sole definition of justice. A good example proving this contention is given by the historical category exchange. There are at least the three following definitions of just exchange, namely :

1. Only an exchange of goods which represent equivalent, socially necessary costs (in the last analysis, equal labor costs) is just. This standpoint is advocated by many medieval economists. Aristotle and Karl Marx mean virtually the same.

2. Any exchange transaction is just if an individual who exchanges one good for another gets a positive psychic net

revenue. This can happen when the principle of equivalence in respect to the labor costs becomes definitely void. For instance, a farmer who has overproduced some perishable food would be unhappy if he were prevented from exchanging the surplus regardless of his labor costs. This psychological approach was introduced by the catholic writer, Bishop Buridanus in the 14th century and now is advocated by any economist who realizes the existence of a subjective value in use. There is only one possible complication as far as the subjective approach to the concept of just exchange is concerned. Namely, an objective observer could eventually say that the man who has exchanged was cheated. Yet, this case does not remove the fact that the exchange in question was subjectively fair. If the given individual was forced to exchange a good regardless of his subjective valuation there will be, of course, no justice whatsoever but in such a case there will be a unilateral action and thus no economic activity at all.

3. Any exchange is just if one gets for his product the actual market value, that is, objectively expected price. Some economists, like, for instance, Cassel advocate this proposition because they assume that a spontaneously developed market value must normally coincide with the actual realized price which is not resented so that the seller if he were a buyer would not himself mind paying the price that he now receives. Some other economists, like, Spann, Ely and Seligman believe that any correctly determined market value expresses the functional importance or the objective use value of the given good and for this reason is just.

Every economist will insist upon one of the above-cited propositions and his preference will be determined by his general tendency to develop either a naturalistic, or a psychological or finally a functional approach. Pesch realizes the difficulty encountered by the first, that is, naturalistic analysis and tries to combine it with the psychological approach by maintaining that one exchanges in order to get a positive psychic net revenue but will not carry out the exchange if he has to give away a good at an exchange ratio which lies below its market value in terms of objectively normal labor costs. This contention is in principle correct but pertains only to a normal case because under abnormal conditions the psychic revenue can be divorced from any kind of incurred sacrifice. Another good example of the ambiguity of the concept "just" in socio-economic life is the idea of fair competition. Ordinarily in the countries where the government does not use any active intervention, fair competition is interpreted as a strict observance of honest trade practices as prescribed by sound business morals under free competition. In an opposite case, how-

ever, like for instance under the American New Deal fair competition means the compliance with some state regulations concerning in particular labor conditions and in principle emphasizes a distinct deviation from free competition.

Also, the superficial ethical approach which was developed by many classical and neo-classical economists and is based on the idea that the liberal capitalistic money exchange economy (*laissez faire*) is the only just socio-economic style since it represents the "natural order", cannot stand a serious criticism because any genetic economist can prove that in spite of the fact that there are some natural laws (that is, limitations imposed by nature) there is no "natural socio-economic order. Any socio-economic style is nothing but a transitory stage of the continuous socio-economic evolution. Besides, the tendency to identify natural with just is often caused by the idea that all phenomena which are natural are necessarily automatic and thus true or just. We however cannot share this view. So, for instance, it would be wrong to say that the gold exchange standard which if applied functions automatically regardless of space and time and thus is in a sense a naturally workable phenomenon must be for this reason a just institution. It may easily happen that a poorer nation will resent being forced to limit its autonomous economic policy in favor of an automatic world specie-price mechanism. Consequently, the only logical chance to introduce a direct value judgment of the socio-economic phenomena and thus to combine ethics with economics is to follow the recommendations of von Wieser, Sombart, Hans Ritschl, Vleugels, von Gottl, Gaetan Pirou, R. Mukerjee, etc., and to develop a separate distinct theory of economic policy which would be a relative nomography congenial to the moral principles and political convictions of the given writer.

Such an ethical theory might help legislators to shape the economic policy of the given nation according to the chosen socio-economic style and could be subjected only to an immanent criticism because it would offer as a premise a distinct ideology which cannot pretend to have a universal validity. Only under such conditions nobody could say anything against the development of a certain strictly normative (*i.e.* ethical) economics which will be conceived as a separate conditional theory of the given "styled" economic policy. Such a theory might be qualified to attempt to cure social ills by the techniques of proper diagnosis—as was suggested, for instance, by Richard Jennings, Gossen and Bulgakov. There is, however, a certain weak point in such a case, namely, the state may impose moral principles on each writer by forcing him to carry out a "social task"—as is done in Soviet Russia.

As to the logical or indirect judgment with a slightly subjective tinge, it is practically unavoidable when one reaches the higher stages of the socio-economic methodological scale. Any historical-nomothetic (*i.e.* cognitive) economist as well as any synthetic economist uses a logical value judgment when he develops a strictly immanent criticism of a socio-economic phenomenon pertaining to the given style. If one says, for instance, that private property as a "social function" is congenial to Fascism or to any other corporate economy but is alien to capitalism, one does not show any preference because the sole criterion in such a case is the sense-relationship by style. There is, in general, no identity between a right phenomenon and a just phenomenon when the cognitive or genetic approaches are applied. In such cases, any right phenomenon is represented by a phenomenon which is logically inherent in the given socio-economic order or might serve as a seed for the coming higher stage of the socio-economic development. Sombart and Marx Weber who showed a distinct predilection for the cognitive method were qualified to say that they avoided any direct subjective value judgment.

The same is true of any organic and functional economist, like Spann and Albert Wolfe, who remain consistent while avoiding any ethical judgment. They judge in principle the socio-economic phenomena (in particular, actions) only with regard to the given social whole which they consider either as an organism or as a superstructure that tends to realize a certain primary end. In other words, both of the above-mentioned economists are "holistic" if one wants to use the terminology of Allen Gruchy. When Spann says that any realized price is in principle "just", he does not necessarily develop an ethical approach since he may simply mean that every commodity which shows its importance for the national economy as an organic whole commands a right price because each socio-economic phenomenon fulfills a function from the standpoint of the ramifying social whole and is rewarded (or appraised) accordingly. Consequently, Spann believes that any realized price expresses ultimately the actual objective use value of the respective good. This is in principle an organic and teleological train of ideas but not a genuine ethical standpoint.

The same can be said of Albert Wolfe. This American economist is usually considered as an ethically minded institutionalist—which is correct provided that one takes into account the fact that Wolfe's approach has a slightly moral quality. Otherwise, it would be wrong to say this because not every teleological approach is necessarily an ethical viewpoint. Both concepts are very closely related but not quite identical. In the

last analysis, Wolfe is perfectly right when he defines his approach as a functional theory. He simply wants to say that a national economy is in a sense a functional totality which works for a certain primary end and that any socio-economic action should be estimated from the standpoint of the prevailing social ideology which determines and symbolizes that end. Evidently Professor Wolfe's approach has a certain subjective coloring. Yet, the holistic standpoint prevents him from doubting the existence of objectivity as recently occurred to Hayek who declares that an economy conceived as a social whole should be examined only through the analysis of the ideas and beliefs of the people who constitute it, since its existence is rather imaginary. According to Hayek, economics as any other social science has to apply a specific method, must study wholes and models based on "mental relations." This contention of Hayek is developed from a very controversial premise which we are unable to accept, namely, that any socio-economic structure is virtually a mental fiction and thus cannot be viewed from the outside. In our opinion, such a structure is a distinct conceptual reality which should be considered in the last analysis as a non-psychological phenomenon. In particular, a national economy taken as a whole is largely based on a continuous reproduction of real capital and knowledge—which already suffices for establishing this conceptual whole as a real entity. When an economist applies the functional approach or uses the genuine cognitive method he pays a great attention to social psychology but in another sense because he cares for the respective socio-economic mentality which determines the primary end of any economy pertaining to the given style but not for the beliefs of the people who very often only subconsciously and automatically participate in the prevailing socio-economic ideology.

As to Rev. Pesch, S.J., he is a very distinct representative of the functional school of thought because he disavows as a non-scientific approach a direct subjective value judgment, which is according to him a "pure morality", and suggests that any socio-economic phenomenon be estimated from a functional standpoint, that is, by determining its contribution to the actual realization of the given primary end. He displays a functional train of ideas in particular in his theory of distribution where the "entrepreneurial revenue" (that is, according to us, the objectively normal net revenue plus an eventual surplus revenue) is expected to be determined as any other income by the social rank (that is, by the functional not purely economic significance) of the entrepreneur who is supposed to serve the community by founding, organizing and directing of his business concern—which involves also the socially needed risk taking. Pesch is, however, simultaneously an ethically minded economist because

in his opinion there is only one really just socio-economic primary end, namely, the best possible material welfare of the masses so that any adequate action appears in his system not only as a functionally congenial but also as an implicitly just phenomenon. We must, however, stress once more that Pesch in principle strictly divorces economics from ethics and refuses to develop it as a distinct catholic moral teaching applied to the socio-economic problems. Also, another German Jesuit, Rev. Nell-Breuning repudiates any direct subjective value judgment in the field of economics. He declares that economic laws are purely analytical statements and concludes that since moral opinions or valuations of things in an ethical sense are out of place when dealing with statements of the above-mentioned kind, an analytical economist should avoid systematic reference to the moral law.

Both Jesuit economists are practically following the encyclical "Quadragesimo Anno" which likewise rejects the idea of submitting economics to ethics by declaring that economic science and moral discipline are guided each by its own principles in its own sphere. The main reason for such a conclusion on behalf of Pope Pius XI is the fact that any economic law of universal nature is not "man-made" but is derived from outer nature or from the human psychology so that it cannot be criticized from a moral viewpoint. Sombart would have agreed in this case by saying that the above-mentioned laws should not be ethically judged by man since they cannot be exactly understood by him. There is, however, one point in Henry Pesch's views which we cannot share. It seems to us that the primary end of the national economy would be just (especially from the religious viewpoint) if people got less material comfort and more immaterial wealth, in particular knowledge. In any case, it is unjust to allocate most productive forces to the production of material goods if this can be done only to the detriment of the nation's cultural development. We think that our definition of the just primary end comes closer to Quadragesimo Anno than that offered by Pesch. It is certainly true that the above-mentioned encyclical maintains that the economic material goods should be produced in a quantity sufficient to supply an honest material livelihood. Yet, the main idea of Pius XI is that this production has to uplift man to a higher level of spiritual culture so that material welfare to the detriment of man's spiritual and in particular intellectual development cannot be considered as a Christian primary goal, or in the last analysis as rational economic conduct. Thus, man's material welfare should not be over-emphasized when one cares for the realm of economic goods although we do not deny that a certain amount of material comfort must be provided before people can indulge much in the higher cultural satisfactions. To be still more exact, the just primary end of the national

economy is according to us social product (that is, national real income) in which personal services creating immaterial wealth are not underdeveloped in comparison with the production of material goods. In the last analysis, it is better for a country to have more good teachers and artists than more refrigerators and automobiles. Our disagreement with Pesch in this respect shows that the selection of the primary end is necessarily influenced by the writer's direct subjective value judgment. For this reason a partisan of economic synthesis prefers not to select from an ethical viewpoint among the possible primary ends which would fit the modern national economy. This, however, does not imply that according to him economics and moral discipline are so alien that the latter is completely neglected by the former.

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